

Canada



Fisheries  
and Oceans

Pêches  
et Océans

Canadian  
Journal of  
Fisheries and  
Aquatic  
Sciences

Journal  
canadien des  
sciences  
halieutiques et  
aquatiques



Government of Canada  
Fisheries and Oceans

Gouvernement du Canada  
Pêches et Océans

Scientific Information  
and Publications Branch  
Ottawa K1A 0E6

Direction de l'information  
et des publications scientifiques  
Ottawa K1A 0E6

The *Canadian Journal of Fisheries and Aquatic Sciences* has been published continuously since 1901, previously as *Contributions to Canadian Biology* 1901–25, *Contributions to Canadian Biology and Fisheries* 1926–34, *Journal of the Biological Board of Canada* 1934–37, and *Journal of the Fisheries Research Board of Canada* 1938–79.

### Editorial policy

The *Journal* publishes original research articles and notes, critical reviews, Perspectives (essays of opinion or hypothesis), comments, and book reviews. Papers may concern cells, organisms, populations, ecosystems, or processes that affect aquatic production systems, and they should lead to identifiable conclusions or synthesis, which variously may amplify, modify, question, or redirect accumulated knowledge embodied in contemporary perceptions of a particular state of fisheries and aquatic sciences. They should demonstrate clearly a contribution to knowledge beyond the confirmatory state. Originality should relate to more than the particular (a certain year, place, taxon, or chemical compound) such that existing understanding is reformulated or extended.

It would assist the Editors if prospective authors identified briefly by covering letter (a) aspects of their papers that meet the foregoing objectives, (b) potential referees, and (c) other manuscripts contemplated or in press containing the same or similar information.

Submissions in English or French are acceptable. The information must be original, that is, not copyrighted, published, or submitted elsewhere except in abstract form or unless by written consent of the Editor. The *Journal* accepts no responsibility for statements made by contributors. The use of proprietary names does not imply endorsement of the product or company.

A charge is made for manuscripts published. When submitting a manuscript, an author must state that the charge will be accepted. See recent issues of the *Journal* for current page charges.

### Guides

Guides for authors and typists appear in the first issue of each volume and are available free from the *Journal*.

### Subscriptions

The *Journal* is issued monthly to form annual volumes of twelve numbers and Supplements. Orders and inquiries regarding subscriptions must be sent directly to Supply and Services Canada, Ottawa, Ontario, Canada, K1A 0S9. Prepayment is required in Canadian funds to the order of "The Receiver General for Canada."

### Microfilm

Issues from 1934 through the current volume can be purchased on 16- or 35-mm microfilm. Photocopies of individual articles or issues can be purchased from Xerox University Microfilms, 300 North Zeeb Road, Ann Arbor, Michigan 48106, USA.

Publié sans interruption depuis 1901, le *Journal canadien des sciences halieutiques et aquatiques* a paru sous plusieurs titres : *Contributions to Canadian Biology* 1901–25, *Contributions to Canadian Biology and Fisheries* 1926–34, *Journal of the Biological Board of Canada* 1934–37 et *Journal de l'office des recherches sur les pêcheries du Canada* 1938–79.

### Politique de rédaction

Le *Journal* publie des articles et des notes fondés sur une recherche originale, des critiques, des essais portant sur une opinion ou une hypothèse (Perspectives), des commentaires et des comptes rendus de livres. Les textes peuvent avoir trait aux cellules, aux organismes, aux populations, aux écosystèmes ou aux processus qui influencent les systèmes de production aquatique. Ils doivent aboutir à des conclusions ou synthèses précises qui, de diverses façons, peuvent accroître, modifier, remettre en question ou réorienter le bagage actuel des connaissances et perceptions dans une discipline donnée des sciences aquatiques. Ils doivent clairement démontrer qu'ils contribuent aux connaissances en faisant plus que corroborer des faits. L'originalité doit dépasser le caractère particulier (une année, un endroit, un taxon ou un composé chimique donné) et tenir à une épurée ou à une reformulation des connaissances actuelles.

Les auteurs éventuels aideraient les rédacteurs s'ils identifiaient brièvement, dans une lettre d'accompagnement (a) les aspects de leurs textes qui répondent particulièrement aux objectifs indiqués ci-dessus, (b) des arbitres possibles et (c) d'autres manuscrits envisagés ou sous presse, dont la teneur est identique ou se rapproche de celui qui est soumis.

Les contributions peuvent être en anglais ou en français. Elles doivent être originales, c.-à-d. qu'elles ne doivent pas avoir fait l'objet d'un copyright, avoir été publiées ou soumises ailleurs, sauf sous forme abrégée ou avec le consentement du rédacteur. Le *Journal* décline toute responsabilité quant aux énoncés des contributeurs. L'utilisation des noms de marques de commerce ne signifie aucunement une sanction du produit en question ou de la compagnie qui le fabrique.

Les manuscrits acceptés sont sujets à des frais de publication. Quant un auteur présente un texte, il doit préciser que ces frais seront acceptés. On trouvera dans une récente livraison du *Journal* les taux par page en vigueur.

### Guides

Le guide des auteurs et celui des secrétaires d'auteurs paraissent dans la première livraison de chaque volume et sont disponibles gratuitement du *Journal*.

### Abonnement

Le *Journal* paraît tous les mois, formant ainsi un volume de douze numéros et Suppléments par année. On est prié d'adresser directement commandes et demande de renseignements relatifs à l'abonnement à Approvisionnement et Services Canada, Ottawa (Ontario), Canada K1A 0S9. Les paiements doivent être faits à l'avance en devises canadiennes, à l'ordre du « Receveur général du Canada ».

### Microfilms

On peut acheter sur microfilms de 16 ou 35 mm tous les numéros publiés depuis 1934. Des photocopies d'articles ou de numéros individuels sont aussi en vente auprès de Xerox University Microfilms, 300 North Zeeb Road, Ann Arbor, Michigan 48106, É.-U.

---

# Canadian Journal of Fisheries and Aquatic Sciences

# Journal canadien des sciences halieutiques et aquatiques

---

Volume 42, Index 1985

---

**Scientific Information and Publications Branch/Direction de l'information et des publications scientifiques**

J. Watson, Ph.D.

Johanna M. Reinhart, M.Sc.

D. G. Cook, Ph.D./Lorraine C. Smith, Ph.D.

J. Camp/G. J. Neville/P. M. Burke/M. L. Gilbert

R. O. Brinkhurst, Ph.D./J. R. M. Kelso, Ph.D.

*Director and Editor-in-Chief/Directeur et rédacteur en chef*

*Deputy Director and Editor/Sous-directrice et rédactrice*

*Assistant Editors/Rédacteurs adjoints*

*Editorial and Publishing Services/Services de rédaction et d'édition*

*Book Review Editors/Rédacteurs des comptes rendus*

**Editorial Board/Conseil de rédaction**

L. M. Dickie

P. J. Dillon

J. J. Dodson

M. C. Healey

L. Legendre

J. J. Magnuson

M. Sinclair

S. J. Smith

J. Sprague

C. J. Walters

C. M. Wood

A. P. Zimmerman

*Department of Fisheries and Oceans, Dartmouth*

*Ontario Ministry of the Environment*

*University of Laval*

*Department of Fisheries and Oceans, Nanaimo*

*Université Laval*

*University of Wisconsin*

*Department of Fisheries and Oceans, Halifax*

*Department of Fisheries and Oceans, Dartmouth*

*University of Guelph*

*University of British Columbia*

*McMaster University*

*University of Toronto*

**Editorial Office:**

Scientific Information

and Publications Branch

Department of Fisheries and Oceans

Centennial Towers

200 Kent Street

Ottawa, Canada K1A 0E6

**Bureau de rédaction :**

Direction de l'information

et des publications scientifiques

Ministère des Pêches et des Océans

Les Tours Centennial

200, rue Kent

Ottawa, Canada K1A 0E6

The Journal is abstracted or indexed in: / Le Journal est résumé ou signalé dans :

*Aquatic Sciences and Fisheries Abstracts, Biological Abstracts, Chemical Abstracts, Current Awareness in Biological Sciences, Current Contents, FAO Freshwater and Aquaculture Contents Tables, FAO Marine Science Contents Tables, and Science Citation Index*

---





# Canadian Journal of Fisheries and Aquatic Sciences

# Journal canadien des sciences halieutiques et aquatiques

Volume 42, Index 1985

## INDEX TO PUBLICATIONS FOR 1985<sup>1</sup>

In 1968 the Fisheries Research Board of Canada published Bulletin 164, a subject-author index and list of publications to 1964. Miscellaneous Special Publication 18, covering the period 1965-72, was published in 1973. Between 1973 and 1976 an annual subject-author index and list of publications has been published as a separate issue of the *Journal*.

Beginning 1977 the annual index has contained a subject index, author index and list of publications. All entries in the subject index are made up of an entry term plus a number of modifying terms (not exceeding three), plus a taxonomic name (omitted where the taxon is the entry term), or common name (omitted where the common name is the entry term), and a geographic entry (also omitted where the geographic area is the entry term). The entry term and modifying terms are selected from the controlled vocabulary wherever possible (*Thesaurus of Terms for Aquatic Sciences and Fisheries*, FAO Fish. Circ. 344 and supplement), but in some cases it is necessary to use "free terms" (i.e. uncontrolled terms of not more than 50 characters) to adequately convey the subject concept. It is possible for these free terms to appear in any modifying position but never as entry terms.

## INDEX DES PUBLICATIONS POUR 1985<sup>1</sup>

En 1968, l'Office des recherches sur les pêcheries du Canada publiait le Bulletin n° 164 qui constituait un index des matières et des auteurs, ainsi qu'une liste des publications, antérieures à 1965. Le n° 18 des Publications diverses spéciales, visant la période de 1965 à 1972, a paru en 1973. Entre 1973 et 1976, on a publié chaque année un index des matières et des auteurs ainsi qu'une liste des publications dans un numéro distinct du *Journal*.

Depuis 1977, l'index annuel comprend un répertoire des matières et des auteurs et une liste des publications. Toutes les notices de l'index des matières sont composées d'un terme d'entrée et d'au plus trois termes modificatifs, ainsi que d'une désignation taxonomique (sauf si celle-ci constitue le terme d'entrée), ou d'une appellation courante (sauf si celle-ci est le terme d'entrée) et d'une inscription géographique (omise si la région géographique est le terme d'entrée). Dans la mesure du possible, le terme d'entrée et les termes modificatifs sont choisis suivant le vocabulaire contrôlé (*Thesaurus of Terms for Aquatic Sciences and Fisheries*, FAO Fish. Circ. 344 et supplément), mais dans certains cas il est nécessaire d'employer des "termes libres" (termes non contrôlés de 50 caractères ou moins) pour exprimer convenablement le sujet traité. Les termes libres peuvent servir de termes modificatifs mais jamais de termes d'entrée.

---

<sup>1</sup>Prepared under contract by the Huntsman Marine Laboratory.

---

<sup>1</sup>Etabli à forfait par le Laboratoire Huntsman des sciences marines.

## ABBREVIATIONS USED IN INDEX

(The designation (F) in the index indicates the article referred to was published in French, and (R) indicates the article was reprinted in 1984.)

- J - Canadian Journal of Fisheries and Aquatic Sciences
- SP - Canadian Special Publication of Fisheries and Aquatic Sciences
- B - Canadian Bulletin of Fisheries and Aquatic Sciences
- AR - Annual Report
- TF - Canadian Technical Report of Fisheries and Aquatic Sciences
- MF - Canadian Manuscript Report of Fisheries and Aquatic Sciences
- DF - Canadian Data Report of Fisheries and Aquatic Sciences
- IF - Canadian Industry Report of Fisheries and Aquatic Sciences
- TH - Canadian Technical Report of Hydrography and Ocean Sciences
- DH - Canadian Data Report of Hydrography and Ocean Sciences
- CH - Canadian Contractor Report of Hydrography and Ocean Sciences
- S - Studies
- TS - Canadian Translation of Fisheries and Aquatic Sciences

The Provinces and Territories of Canada are abbreviated to:

Alta.	(Alberta)	N.W.T.	(Northwest Territories)
B.C.	(British Columbia)	Ont.	(Ontario)
Man.	(Manitoba)	P.E.I.	(Prince Edward Island)
N.B.	(New Brunswick)	Que.	(Quebec)
Nfld.	(Newfoundland)	Sask.	(Saskatchewan)
N.S.	(Nova Scotia)	Y.T.	(Yukon Territory)

The names of states within the United States are abbreviated to conform with those in the CBE Style Manual.

Certain geographical areas (particularly oceans) have their major subdivisions designated by N(north), S(south), E(east), W(west), NW(northwest), NE(northeast), etc., also Atl.(Atlantic), Pac.(Pacific).

Certain international commissions are commonly referred to as: ICNAF(International Commission for the Northwest Atlantic Fisheries), NAFO(Northwest Atlantic Fisheries Organization).

Scientific names, common names, and their spellings for the Canadian and American marine fishes taken within 200-m depth and for freshwater fishes are indexed according to the nomenclature recommended in *A List of Common and Scientific Names of Fishes from the United States and Canada* (Fourth Edition, 1980), Special Publication No. 12 of the American Fisheries Society. Where authors have used names or spellings not conforming to those recommended, index headings for such names are included, referring to the recommended ones under which the subject entries will be found.

## ABREVIATIONS EN USAGE DANS L'INDEX

(La désignation (F) dans l'index signifie que l'article dont il est question a été publié en français et la désignation (R) signifie que l'article a été réimprimé en 1984.)

- J - Journal canadien des sciences halieutiques et aquatiques
- SP - Publication spéciale canadienne des sciences halieutiques et aquatiques
- B - Bulletin canadien des sciences halieutiques et aquatiques
- AR - Rapport annuel
- TF - Rapport technique canadien des sciences halieutiques et aquatiques
- MF - Rapport manuscrit canadien des sciences halieutiques et aquatiques
- DF - Rapport statistique canadien des sciences halieutiques et aquatiques
- IF - Rapport canadien à l'industrie des sciences halieutiques et aquatiques
- TH - Rapport technique canadien sur l'hydrographie et les sciences océaniques
- DH - Rapport statistique canadien sur l'hydrographie et les sciences océaniques
- CH - Rapport canadien des entrepreneurs sur l'hydrographie et les sciences océaniques
- S - Etudes
- TS - Traduction canadienne des sciences halieutiques et aquatiques

Les provinces et territoires du Canada sont abrégés comme suit:

Alta.	(Alberta)	N.W.T.	(Territoires du Nord-Ouest)
B.C.	(Colombie-Britannique)	Ont.	(Ontario)
Man.	(Manitoba)	P.E.I.	(Île-du-Prince-Édouard)
N.B.	(Nouveau-Brunswick)	Que.	(Québec)
Nfld.	(Terre-Neuve)	Sask.	(Saskatchewan)
N.S.	(Nouvelle-Écosse)	Y.T.	(Territoire du Yukon)

Les abréviations des noms des États des États-Unis sont tirées du Style Manual du "Council Biology Editors."

Certaines régions géographiques (surtout les océans) ont leur principales subdivisions indiquées de la façon suivante: N(nord), S(sud), E(est), W(ouest), NW(nord-ouest), NE(nord-est), ainsi que Atl.(Atlantique), Pac.(Pacifique).

On désigne communément certaines commissions internationales de la façon suivante: ICNAF (Commission internationale des pêcheries de l'Atlantique nord-ouest), NAFO(l'Organisation des pêches de l'Atlantique nord-ouest).

Les désignations scientifiques, les noms communs et l'orthographe des poissons marins canadiens et américains, pris en deçà de 200 m de profondeur, ainsi que les poissons d'eau douce sont indexés conformément aux recommandations de l'ouvrage *A List of Common and Scientific Names of Fishes from the United States and Canada* (quatrième édition, 1980), Publication spéciale n° 12 de l'American Fisheries Society. Quand un auteur utilise des désignations différentes des formes recommandées, on inclut des rubriques renvoyant à ces dernières, sous lesquelles on trouve les notices.

## LIST OF ESTABLISHMENTS

The number in front of each address corresponds to the number shown at the end of titles in some of the listed series of publications to indicate from which establishment the publication or report originated.

- (1) Department of Fisheries and Oceans  
Pacific Biological Station  
Hammond Bay Road  
Nanaimo, British Columbia V9R 5K6
- (2) Department of Fisheries and Oceans  
Vancouver Laboratory  
6640 N.W. Marine Drive  
Vancouver, British Columbia V6T 1X2
- (3) Department of Fisheries and Oceans  
West Vancouver Laboratory  
4160 Marine Drive  
West Vancouver, British Columbia V7V 1N6
- (4) Department of Fisheries and Oceans  
Freshwater Institute  
501 University Crescent  
Winnipeg, Manitoba R3T 2N6
- (5) Department of Fisheries and Oceans  
Arctic Biological Station  
P.O. Box 400  
555 St. Pierre Blvd.  
St. Anne de Bellevue, Quebec H9X 3R4
- (6) Department of Fisheries and Oceans  
Biological Station  
St. Andrews, New Brunswick E0G 2X0
- (7) Department of Fisheries and Oceans  
Bedford Institute of Oceanography  
P.O. Box 1006  
Dartmouth, Nova Scotia B2Y 4A2
- (8) Department of Fisheries and Oceans  
Scotia-Fundy Regional Library  
P.O. Box 550  
Halifax, Nova Scotia B3J 2S7
- (9) Department of Fisheries and Oceans  
Newfoundland Region  
P.O. Box 5667  
St. John's, Newfoundland A1C 5X1
- (10) Department of Fisheries and Oceans  
Scientific Information and Publications  
Branch  
240 Sparks Street  
Ottawa, Ontario K1A 0E6
- (11) Department of Fisheries and Oceans  
Great Lakes Fisheries Research Branch  
Canada Centre for Inland Waters  
P.O. Box 5050  
867 Lakeshore Road  
Burlington, Ontario L7R 4A6

## LISTE D'ETABLISSEMENTS

Le chiffre placé devant chaque adresse correspond à celui qui figure à la fin des titres de certaines des séries de publications énumérées, pour indiquer soit l'établissement d'où provient la publication ou le rapport.

- (1) Ministère des Pêches et des Océans  
Station biologique du Pacifique  
ch. Hammond Bay  
Nanaimo (Colombie-Britannique) V9R 5K6
- (2) Ministère des Pêches et des Océans  
Laboratoire de Vancouver  
6640 nord-ouest, prom. Marine  
Vancouver (Colombie-Britannique) V6T 1X2
- (3) Ministère des Pêches et des Océans  
Laboratoire de Vancouver-Ouest  
4160, prom. Marine  
Vancouver-Ouest (Colombie-Britannique)  
V7V 1N6
- (4) Ministère des Pêches et des Océans  
Institut des eaux douces  
501, University Crescent  
Winnipeg (Manitoba) R3T 2N6
- (5) Ministère des Pêches et des Océans  
Station biologique de l'Arctique  
C.P. 400, 555, boul. St. Pierre  
Sainte-Anne-de-Bellevue (Québec) H9X 3R4
- (6) Ministère des Pêches et des Océans  
Station biologique  
St. Andrews (Nouveau-Brunswick) E0G 2X0
- (7) Ministère des Pêches et des Océans  
Institut océanographique de Bedford  
C.P. 1006  
Dartmouth (Nouvelle-Ecosse) B2Y 4A2
- (8) Ministère des Pêches et des Océans  
Bibliothèque de la région Scotia-Fundy  
C.P. 550  
Halifax (Nouvelle-Ecosse) B3J 2S7
- (9) Ministère des Pêches et des Océans  
Région de Terre-Neuve  
C.P. 5667  
St-Jean (Terre-Neuve) A1C 5X1
- (10) Ministère des Pêches et des Océans  
Direction de l'information et des  
publications scientifiques  
240, rue Sparks  
Ottawa (Ontario) K1A 0E6
- (11) Ministère des Pêches et des Océans  
Direction de la recherche sur les pêches  
des Grands Lacs  
Centre canadien des eaux intérieures  
C.P. 5050, 867, ch. Lakeshore  
Burlington (Ontario) L7R 4A6

- |  |  |
|--|--|
| <p>(12) Department of Fisheries and Oceans<br/>Pacific Region<br/>1090 West Pender Street<br/>Vancouver, British Columbia V6E 2P1</p>                      | <p>(12) Ministère des Pêches et des Océans<br/>Région du Pacifique<br/>1090, rue West Pender<br/>Vancouver (Colombie-Britannique) V6E 2P1</p>                                  |
| <p>(13) Department of Fisheries and Oceans<br/>Quebec Region<br/>901 Cap Diamant<br/>P.O. Box 15,500<br/>Quebec, Quebec G1K 7Y7</p>                        | <p>(13) Ministère des Pêches et des Océans<br/>Région du Québec<br/>901, Cap Diamant<br/>C.P. 15,500<br/>Québec (Québec) G1K 7Y7</p>   |
| <p>(14) Department of Fisheries and Oceans<br/>Institute of Ocean Sciences<br/>P.O. Box 6000<br/>Sidney, British Columbia V8L 4B2</p>                      | <p>(14) Ministère des Pêches et des Océans<br/>Institut des sciences océaniques<br/>C.P. 6000<br/>Sidney (Colombie-Britannique) V8L 4B2</p>                                    |
| <p>(15) Department of Fisheries and Oceans<br/>Centre for Research on the Ecology of<br/>Fishes<br/>310 Av. des Ursulines<br/>Rimouski, Quebec G5L 3A1</p> | <p>(15) Ministère des Pêches et des Océans<br/>Centre de recherche en écologie des<br/>pêches<br/>310, av. des Ursulines<br/>Rimouski (Québec) G5L 3A1</p>                     |
| <p>(16) Department of Fisheries and Oceans<br/>Great Lakes Fisheries Research Branch<br/>1219 Queen Street East<br/>Sault Ste. Marie, Ontario P6A 5M7</p>  | <p>(16) Ministère des Pêches et des Océans<br/>Direction de la recherche sur les pêches<br/>des Grand Lacs<br/>1219, rue Queen East<br/>Sault Ste. Marie (Ontario) P6A 5M7</p> |
| <p>(17) Department of Fisheries and Oceans<br/>P.O. Box 5030<br/>Moncton, New Brunswick E1C 9B6</p>  | <p>(17) Ministère des Pêches et des Océans<br/>C.P. 5030<br/>Moncton (Nouveau-Brunswick) E1C 9B6</p>   |
| <p>(18) Department of Fisheries and Oceans<br/>Prince Rupert, British Columbia<br/>V8J 1G8</p>   | <p>(18) Ministère des Pêches et des Océans<br/>Prince Rupert (Colombie-Britannique)<br/>V8J 1G8</p>  |

LIST OF ENTRY TERMS USED IN SUBJECT INDEX  
LISTE DES TERMES D'ENTREE EN USAGE DANS L'INDEX DES MATIERES

(NOTE: From 1984 the number of entry terms used from the *Thesaurus of Terms for Aquatic Sciences and Fisheries* (FAO Fish. Circ. 344 and supplement) has been greatly reduced by the following combination of related terms. Also, the number of modifying terms has been reduced from three to one or two for each entry.)

(REMARQUE: De 1984, le nombre de termes d'entrée tirés du *Thesaurus of terms for Aquatic Sciences and Fisheries* (FAO Fish. Circ. 344 and supplement) a été considérablement réduit, grâce à la combinaison des termes connexes présentée ci-après. De plus, le nombre de termes de modification a été ramené de trois à un ou deux pour chaque terme d'entrée.)

AGE AND GROWTH (Age determination, Growth patterns and rates)

AQUACULTURE (Freshwater and Marine, Animal and Plant; Hatcheries)

BEHAVIOR

BIOGEOGRAPHY

COMPUTER PROGRAMS AND DATA PROCESSING

CONFERENCES (Symposia; Workshops)

CRUISES (Fishery; Plankton; Oceanographic)

DISEASES AND PARASITES

DISTRIBUTION AND ABUNDANCE (Geographical; Vertical; Horizontal)

ECONOMICS AND SOCIOLOGY

ENVIRONMENTAL EFFECTS (Effects of environmental conditions on organisms and fisheries)

ENVIRONMENTAL IMPACT (Effects of man-induced environmental changes on organisms and fisheries)

FISH HANDLING (Aquatic products and their handling)

FISHERIES AND FISHABLE STOCKS (Statistics; Sampling; Stock assessment; Management; Gear; Surveys)

FISHES (General)

FOOD AND FEEDING (including Feeding behavior)

GENETICS (Hybrids; Ploidy; Population)

HABITAT

HISTORICAL ACCOUNT

INFORMATION SERVICES (Check lists; Manuals; Reports; Bibliographies)

INTRODUCED SPECIES

METEOROLOGY

METHODOLOGY AND TECHNIQUES (Laboratory methods; Analysis; Equipment)

MIGRATIONS AND TAGGING (including Migratory behavior)

MODELS (Mathematical; Analytical)

MORPHOLOGY AND TAXONOMY

NAVIGATION

NEW GENERA

NEW RECORDS

NEW SPECIES

OCEANOGRAPHY AND LIMNOLOGY (Physical; Chemical; Biological; Hydrology; Nutrients)

PHYSIOLOGY AND BIOCHEMISTRY (including Metabolism)

PLANKTON (Nanno-; Phyto-; Zoo-)

POLLUTION (Pollutants; Pollution monitoring)

POPULATION DYNAMICS (Dynamical characteristics; Recruitment; Fecundity; Spawning; Maturity; Mortality)

POPULATION STRUCTURE (Structural characteristics; Age composition; Weight; Size)

PREDATION AND COMPETITION (including Interspecific and Intraspecific relationships)

PRODUCTION (Biological)

REPRODUCTION (Biology)

RESEARCH INSTITUTIONS

SPORT FISHING

TOXICITY (Toxicants; Toxicity tests)



# SUBJECT INDEX/INDEX PAR SUJET

## A

- Abalone (*Haliotis kamtschatkana*)  
 MF 1818 (fishery surveys, stock assessment, Queen Charlotte Is., B.C.)  
 1826 (catch statistics, fishery management, B.C.)
- Abramis brama* (see Bream)
- Acanthochondria dojirii* (Copepoda)  
 S 3343 (taxonomy, new species, B.C.)
- Acanthochondria margolisi* (Copepoda)  
 S 3343 (taxonomy, new species, B.C.)
- Acanthochondria vancouverensis* (Copepoda)  
 S 3343 (taxonomy, new species, B.C.)
- Acharax* (see Mollusca)
- Acipenser brevirostrum* (see Sturgeon, shortnose)  
*transmontanus* (see Sturgeon, white)
- Aeromonas* (see Bacteria; also Diseases and Parasites)
- Africa  
 S 3366 (limnology, trophodynamic cycle, E Africa)
- Age and Growth (see also Population structure)  
 J 42 : 14 (length-weight relationships, environmental effects, *Thysanoessa inermis*, *T. raschii*, *Meganyctiphanes norvegica*, N Norway)  
 : 33 (biomass, models, *Laminaria longicruris*, Chaleur Bay, Que.)  
 : 185 (diets, hormones, elvers, American eel)  
 : 287 (egg weight, water temperature, juveniles, chinook salmon)  
 : 320 (nutrients, growth, sockeye salmon, coastal lakes, B.C.)  
 : 380 (strontium, statolith, short-finned squid)  
 : 539 (growth, smolts, juveniles, Atlantic salmon, Little Codroy R., Nfld.)  
 : 899 (otoliths, juveniles, chinook salmon, Sixes R. estuary, OR)  
 : 938 (age determination, vertebrae, bluefin tuna)  
 : 963 (sandbar shark, NW Atl.)  
 : 1014 (otoliths, microstructure, fishes)  
 : 1096 (growth, oligotrophic lakes, crayfish, Experimental Lakes Area, NW Ont.)  
 : 1166 (limiting factors, benthic boundary layer, blue mussel, St. Lawrence R. estuary)
- : 1272 (pollution effects, insecticides, algae, copepods)  
 : 1418 (density dependence, detritus, chironomids)  
 : 1452 (otolith reading, larvae, redbishes, Flemish Cap, NW Atl.)  
 : 1552 (otolith reading, albacore)  
 : 1640 (biotic factors, abiotic factors, American shad, Connecticut R., USA)  
 : 1799 (age determination, fins, spiny dogfish)
- (S1) : 138 (environmental effects, maturation, Pacific herring, Strait of Georgia, NE Pac.)
- TF 1297 (scales, juveniles, sockeye salmon, Babine L., B.C.)
- 1314F (brackishwater environment, Atlantic salmon, Koksoak R. system, Ungava, Que.)
- 1321 (age determination, fins, white sucker, Experimental Lakes Area, NW Ont.)
- 1325 (food, threespine stickleback, Experimental Ponds Area, Nfld.)
- 1353 (length, scales, Pacific salmon)
- MF 1783 (scales, regeneration, sockeye salmon, Fraser R., Skeena R., B.C.)
- DF 470 (age determination, inventory, fishes, B.C.)
- S 3376 (growth, cadmium compounds, *Thalassiosira weissflogii*, *Amphidinium carteri*)
- 3378 (growth, phytoplankton, World Tropical Regions)
- 3379 (growth, phytoplankton, HI)
- 3452 (light effects, nutrient deficiency, *Synechococcus linearis*)
- 3477 (diets, growth, chinook salmon)
- 3487 (age determination, scales, walleye)
- 3515 (competition, growth, Atlantic salmon, Matamec R., Que.)
- 3539 (growth, hormones, coho salmon)
- TS 5128 (age determination, mandible, harbor porpoise)
- Alaska State, USA  
 J 42 : 483 (digestion, stomach content, chironomids, slimy sculpin, Toolik L.)  
 : 693 (spawning grounds, spawning seasons, chinook salmon, Kenai R.)  
 : 797 (nutrient cycles, phytoplankton, Toolik L.)  
 : 809 (sedimentation, dating techniques, Toolik L.)
- DF 460 (population number, hunting statistics, Stellar sea lion, California sea lion)

- Albacore (*Thunnus alalunga*)  
 J 42 : 1552 (age determination, otolith reading)
- Alberta (Province), Canada  
 J 42 : 239 (oxygen depletion, ice-covered lakes)  
 : 1296 (production, invertebrates, chironomids, Sand R.)  
 : 1588 (primary production, salt lakes, phytoplankton)  
 : 1815 (fishways, design, nonsalmonoid fishes, Lesser Slave R.)  
 : 1835 (visual census, diving, northern pike, Roi L.)  
 IF 158 (fish wastes, fish silage, freshwater fish, Lac La Biche)
- Alewife (*Alosa pseudoharengus*)  
 J 42 : 449 (prey-predator relationship, mathematical models, lake trout, L. Michigan)  
 : 1608 (recruitment, temperature effects, South Bay, L. Huron)  
 : 1928 (gear selectivity, fishing nets, juveniles, Saint John R., N.B.)  
 MF 1776 (spawning migrations, fishways, Magaguadavic R., N.B.)  
 S 3567 (blood, acidification, N.S.)
- Algae  
 J 32 : 33 (biomass, models, *Laminaria longicruris*, Chaleur Bay, Que.)  
 : 85 (zinc, growth, *Chlamydomonas variabilis*)  
 : 300 (phosphorus, trophic structure, freshwater lakes)  
 : 384 (light, enzyme activity, *Selenastrum capricornutum*)  
 : 724 (bioaccumulation, nickel, *Scenedesmus obliquus*)  
 : 754 (ecological succession, fossil diatoms, Bay of Quinte, Ont.)  
 : 999 (tidal mixing, light intensity, Manitounuk Sound, Hudson Bay)  
 : 1272 (insecticides, growth)  
 : 1501 (acidification, lakes, NH)  
 : 1783 (acidification, selenium, *Chrysochromalina breviturrita*)  
 : 2061 (interspecific relationships, American lobster, green sea urchin, N.S.)  
 MF 1431R (check lists, Northumberland Strait, Gulf of St. Lawrence)  
 S 3376 (growth, cadmium compounds, *Thalassiosira weissflogii*)  
 3449 (predation, interspecific relationships, green sea urchin, N.S.)  
 3452 (nutrient deficiency, growth, *Synechococcus linearis*)  
 3479 (heavy metals, pH, *Scenedesmus quadricauda*)  
 3483 (light effects, photosynthesis, Resolute Bay, N.W.T.)
- 3565 (pollution effects, aromatic hydrocarbons, *Phaeodostylum tricornutum*)  
 TS 5172 (population dynamics, resource management, *Lessonia nigrescens*, Chile)
- Alosa aestivalis* (see Herring, blueback)  
*pseudoharengus* (see Alewife)  
*sapidissima* (see Shad, American)
- Amphibia  
 J 42 : 1544 (aluminum, pH, Ont.)
- Amphidinium* (see Protozoa)
- Amphipoda (see Crustacea)
- Anchovy (*Engraulis capensis*)  
 J 42 : 982 (fishing effort, fishery management)
- Anchovy, northern (*Engraulis mordax*)  
 J 42(S1) : 69 (year-class strength, survival, CA)
- Anguilla anguilla* (see Eel, European)  
*rostrata* (see Eel, American)
- Anisakis* (see Nematoda)
- Anoplopoma fimbria* (see Sablefish)
- Antillocladius* (see Chironomidae)
- Aquaculture  
 J 42 : 57 (bioenergetics models, stocking, northern pike, muskellunge, tiger muskellunge)  
 : 181 (diets, trace metals, rainbow trout)  
 : 185 (hormones, growth, elvers, American eel)  
 : 268 (bubble disease, gas supersaturation, rainbow trout, SW Man.)  
 : 287 (growth, egg weight, water temperature, juveniles, chinook salmon)  
 : 307 (production variability, financial viability, freshwater prawn, HI)  
 : 368 (diets, vitamin C, juveniles, American lobster)  
 : 370 (vitamin C, biosynthesis, American lobster)  
 : 619 (buoyancy, current velocity, Atlantic salmon)  
 : 744 (equipment, phytoplankton)  
 : 1007 (copper, water temperature, diets, rainbow trout)  
 : 1073 (incubation, artificial substrata, Atlantic salmon)  
 : 1321 (viral diseases, white sturgeon)  
 : 1627 (sex hormones, body size,

- yellow perch) 3431 (egg production, American lobster)
- : 1915 (food preferences, juveniles, 3434 (parasites, diseases, fishes, coho salmon) tropical zones)
- : 1940 (biological control, 3444 (viral diseases, necrosis, Arctic phytoplankton) char, Fish Creek, N.W.T.)
- : 1954 (artificial insemination, 3446 (viral diseases, serum inhibitors, fecundity, American lobster) rainbow trout, Canada)
- : 1986 (parasite control, chlorine, 3464 (incubation, Atlantic salmon) salmon leech, coho salmon) 3475 (hormones, growth, Atlantic salmon)
- : 1994 (salinity tolerance, body size, 3476 (light effects, growth, Atlantic rainbow trout, P.E.I.) salmon)
- (S1) : 222 (techniques, Pacific herring, 3477 (diets, growth, chinook salmon) Japan) 3478 (osmoregulation, temperature effects, chinook salmon)
- TF 1306 (survival, body size, coho salmon, 3491 (sex hormones, ovulation, coho B.C.) salmon)
- 1315F (marine, information services, Que.) 3514 (diets, growth, pink salmon)
- 1319 (developmental stages, morphology, 3519 (pH, eggs, steelhead trout) larvae, muskellunge, Stony L., Ont.)
- 1330 (incubation, equipment, chum salmon, 3535 (temperature effects, reproduction, B.C.) American lobster)
- 1337 (density dependence, survival, 3536 (diets, population dynamics, juveniles, coho salmon, Vancouver I., B.C.) American lobster)
- 1348 (fish diseases, kidneys, rainbow 3539 (growth, hormones, coho salmon) trout) 3558 (immunization, *Aeromonas salmonicida*, coho salmon)
- 1357 (techniques, incubation, chinook 5119 (fish rearing, financial viability, salmon, B.C.) Norway)
- 1358 (fungicides, mortality, Atlantic 5164 (recirculating systems, water salmon) pollution treatment, Federal Republic of Germany)
- 1379 (temperature effects, triploidy, 5165 (introduced species, predation, rainbow trout) starfish, yezo scallop, Vityaz Bay, Japan Sea)
- 1380 (steroids, sex reversal, rainbow 5184 (economic analysis, salmonids, trout) Norway)
- 1385 (diets, evaluation, coho salmon, 5188 (sediment, analysis, food B.C.) composition, Japan)
- 1390 (techniques, aeration, chinook 5189 (dissolved oxygen, fish stocking salmon, Puntledge Hatchery, B.C.) density, Japan)
- MF 1817 (groundwater quality, hatcheries, 5190 (dissolved oxygen, fish culture chum salmon, Mathers Creek, Queen Charlotte Is., B.C.) effluents, Japan)
- 1830 (hatchery effluents, environmental 5193 (diseases, therapy, *Aeromonas impact, aquatic organisms, B.C.) salmonicida*, salmonids)
- DF 409 (hatchery sites, water quality 5195 (nutrient requirements, selenium, analysis, Pacific salmon, B.C.) salmonids)
- 462 (meteorological observations, Pacific salmon, Nanaimo, Vancouver I., B.C.)
- 463 (body size, survival, chinook 472 Aquatic animals
- 496 (techniques, Pacific salmon, 3472 (environmental impact, chemical steelhead trout, B.C.) pollutants)
- S 3326 (stocks, homing behavior, Atlantic 473 Aquatic plants
- 3344 (polyploids, induction, rainbow J 42 : 701 (vertical distribution, water trout) transparency)
- 3352 (induced breeding, electric : 1303 (nutrient cycles, sediment currents, American lobster) analysis, *Myriophyllum spicatum*, L. Memphremagog, Que.)
- 3365 (hormones, sexual maturity, rainbow : 1860 (biological sampling, biomass, trout) L. Memphremagog, Que.)
- 3385 (vibriosis, immunization, fishes) Arctic
- 3399 (temperature effects, gametes, chum J 42 : 676 (geographical distribution, salmon) population number, beluga, narwhal)
- 3403 (recirculating systems, rainbow : 1189 (geographical distribution, trout) abundance, ringed seal, bearded seal)
- 3409 (toxicity, disinfectants, chinook : 1789 (melt water mixing, lakes) salmon)

- TF 1361 (bibliographies, human resources, marine mammals)
- DF 482 (check lists, phytoplankton, Frobisher Bay)
- 503 (vertical distribution, abundance, zooplankton, Frobisher Bay)
- 539 (sediments, phytoplankton)
- DH 5 (physical oceanographic data)
- S 3370 (population structure, life cycle, whales)
- 3372 (primary production)
- 3374 (trace metals, sediment analysis, Baffin Bay)
- 3382 (temperature effects, nutrients, bacteria, E Arctic)
- 3394 (photosynthesis, autotrophy, picoplankton, Foxe Basin, E Arctic)
- 3410 (water temperature, salinity, *Mesidotea* spp.)
- 3425 (secondary production, energy balance, zooplankton, Baffin Bay)
- 3432 (petroleum, marine organisms)
- 3483 (radar, sea ice)
- 3485 (petroleum, invertebrates)
- 3486 (energy flow, zooplankton, Frobisher Bay)
- 3511 (feeding behavior, light effects, zooplankton, Jones Sound, Baffin Bay)
- 3543 (sea ice, chemical properties)
- TS 5142 (chemical oceanography, physical oceanography, Arctic Basin)
- Arctica islandica* (see Quahaug, ocean)
- Argentina silus* (see Argentine, Atlantic)
- Argentine, Atlantic (*Argentina silus*) (great silver smelt)
- TS 5162 (geographical distribution, Barents Sea, Spitsbergen)
- Artemia* (see Crustacea)
- Auklet, Cassin's (*Ptychoramphus aleuticus*)
- TH 56 (feeding behavior, juveniles, B.C.)
- Auklet, rhinoceros (*Cerorhinca monacera*)
- S 3383 (food preferences, forage fish, B.C.)
- Aurelia* (see Coelenterata)
- Azores, Northeast Atlantic Ocean
- S 3377 (oceanic fronts, chlorophylls)
- B**
- Bacteria
- J 42 : 1244 (bioluminescence, toxicity tests)
- S 3338 (antigens, analysis, *Aeromonas hydrophila*)
- 3363 (polysaccharides, biochemistry, *Aeromonas hydrophila*)
- 3382 (temperature effects, nutrients, E Arctic)
- 3463 (biochemical analysis, polysaccharides, Vibrionaceae)
- 3558 (immunization, *Aeromonas salmonicida*, coho salmon)
- 3559 (immunization, *Aeromonas salmonicida*, coho salmon)
- TS 5194 (diseases, therapy, *Yersinia ruckeri*, rainbow trout)
- Baffin Bay (see Arctic)
- Baffin Island (see Northwest Territories)
- Balaena mysticetus* (see Whale, bowhead)
- Baltic Sea
- J 42(S1) : 83 (environmental effects, spawning, Baltic herring)
- TS 5112 (parasites, helminths, Baltic seal, grey seal)
- Barents Sea
- TS 5162 (distribution, Atlantic argentine)
- Beaufort Sea
- TF 1350 (remote sensing, distribution, bowhead whale)
- DH 32(1) (catalogue, marine dredging activities)
- (2) (catalogue, oil and gas explorations)
- CH 12 (wave data analyses)
- 19 (floods, storm surge predicting, Tuktoyaktuk)
- S 3386 (hydrocarbons, offshore engineering)
- Beetle, staphylinid (*Thinopinus pictus*)
- S 3350 (predators, feeding behavior, *Orchestoidea californiana*, W Vancouver I., B.C.)
- Behavior (see also Food and Feeding; Migrations and Tagging)
- J 42 : 168 (vertical distribution, substrate preferences, snow crab, SW Gulf of St. Lawrence)
- : 488 (tagging, biotelemetry, rainbow trout, white perch)
- : 791 (learning, freshwater fishes)
- : 1238 (vocalization, geographical distribution, ringed seal, Barrow Strait, N.W.T.)
- : 1410 (suspended particulate matter, coho salmon)
- : 1535 (avoidance reactions, lighting systems, zooplankton, nekton, off N.S.)
- : 1658 (olfaction, hydrographic stratification, Atlantic salmon)
- : 1702 (aggressive, juveniles, steelhead trout)
- : 2029 (swimming, stock identification, coho salmon, B.C.)
- TF 1391 (methodology, invertebrates)
- S 3421 (aggressive, juveniles, brook trout)

- 3429 (mating, Jonah crab)  
 3439 (acidity, avoidance, crayfish)  
 3462 (avoidance, suspended sediments, rainbow smelt)  
 3505 (pollution effects, acidification, Arctic char)  
 3506 (carbon dioxide, acidification, Arctic char)  
 TS 5123 (sound production, seals)  
 5170 (protective, embryos, marine molluscs)  
 5182 (settling, vertical distribution, snow crab, SW Gulf of St. Lawrence)
- Belone vulgaris* (see Gar, marine)
- Beluga (*Delphinapterus leucas*) (see Whale, white)
- Benthos  
 J 42 : 1530 (biological sampling, population density)  
 TF 1332 (pneumatic sampler, evaluation)  
 DF 476 (biological sampling, meiobenthos, Campbell R. estuary, Vancouver I., Discovery Passage, B.C.)  
 483 (biological sampling, Calanoida, Copepoda, Campbell R. estuary, Vancouver I., Discovery Passage, B.C.)  
 S 3407 (ocean dumping, dredging, Saint John Harbour, N.B.)  
 3524 (distribution, trophic relationships, continental shelves)  
 3552 (ocean dumping, dredging, Alberni Inlet, B.C.)  
 TS 5181 (environmental impact, dams, Durance R., France)
- Bering Sea  
 J 42(S1) : 181 (production, exploitation, Pacific herring, E Bering Sea)  
 TS 5140 (migrations, tagging, Alaska pollack)
- Binoculus salmoneus* (see Louse, salmon)
- Biogeography  
 J 42 : 754 (ecological succession, fossil diatoms, Bay of Quinte, Ont.)  
 S 3362 (emergence, caddisflies, South Duck R., Cowan Creek, Man.)  
 3389 (distribution, mayflies, Man.)  
 TS 5154 (geographical distribution, local movements, aquatic oligochaetes, NW USSR)
- Bosmina* (see Crustacea)
- Botryllus* (see Tunicata)
- Brachyura* (see Crustacea)
- Brama japonica* (see Pomfret)
- Bream (*Abramis brama*)  
 J 42 : 1342 (interspecific relationships, food availability, European eel, Tjeukemeer L., Netherlands)
- Brevoortia tyrannus* (see Menhaden, Atlantic)
- Briarosaccus* (see Mollusca)
- British Columbia (Province), Canada (see also Northeast Pacific Ocean)  
 J 42 : 51 (fishing power, purse seine fleet, Pacific salmon)  
 : 101 (interspecific relationships, feeding behavior, lakes, Dolly Varden, cutthroat trout)  
 : 139 (feeding behavior, detritus, invertebrates, Carnation Creek)  
 : 150 (stock assessment, search effectiveness model, Pacific ocean perch)  
 : 312 (length, body size, pink salmon, chum salmon, S B.C.)  
 : 320 (nutrients, growth, sockeye salmon, coastal lakes)  
 : 373 (radioactive tracers, sediment analysis, microorganisms, Marion L.)  
 : 437 (biochemical analysis, stock identification, chum salmon)  
 : 649 (fertilizers, freshwater lakes, phytoplankton)  
 : 1033 (geographical distribution, escapement, Pacific salmon)  
 : 1259 (population number, food availability, common merganser, Vancouver I.)  
 : 1474 (population genetics, stock identification, pink salmon, S B.C.)  
 : 1595 (sexual maturity, annual variations, sockeye salmon)  
 : 1696 (stock identification, egg size, sockeye salmon, Stikine R.)  
 : 1733 (biological production, habitat, *Eogammarus confervicolus*, Squamish R. estuary)  
 : 1755 (temperature effects, egg size effects, chum salmon, Nitinat R.)  
 (S1) : 56 (environmental effects, reproductive cycle, Pacific herring)  
 : 111 (reproduction, Pacific herring)  
 : 127 (reproduction, survival, Pacific herring)  
 : 258 (evaluation, fishery management, Pacific herring)  
 SP 77 (population number, seasonal variations, Stellar sea lion, California sea lion)  
 TF 1255 (fishways, evaluation, Laird R.)  
 1290 (fecundity, sablefish)  
 1292 (landing statistics, fishing vessels, chinook salmon)  
 1297 (age, scales, juveniles, sockeye salmon, Babine L.)  
 1303 (parasites, marine fishes)  
 1304 (landing statistics, fishing vessels, coho salmon)  
 1306 (survival, body size, coho salmon)  
 1311 (landing statistics, fishing)



- vessels, Pacific salmon)
- 1312 (catch/effort, groundfish species)
- 1324 (fertilization, lakes, evaluation, sockeye salmon)
- 1329 (impoundment, roe fisheries, Pacific herring, N Gulf Is.)
- 1330 (equipment, incubation, chum salmon)
- 1333 (distribution, abundance, Pacific herring, W Vancouver I.)
- 1335 (biological sampling, age composition, chinook salmon)
- 1337 (density dependence, survival, juveniles, coho salmon, Vancouver I.)
- 1349 (migrations, sonic tags, Fraser R.)
- 1352 (migrations, distribution, chinook salmon, Yukon R. basin)
- 1356 (stock identification, biochemistry, chum salmon, Georgia Strait, Johnstone Strait)
- 1357 (aquaculture techniques, incubation, chinook salmon)
- 1359 (life history, larvae, fishes)
- 1363 (equipment, chilling storage, fishes)
- 1364 (parasites, water pollution treatment, *Ceratomyxa shasta*, chinook salmon, Fraser R.)
- 1365 (stock assessment, potential resources, Pacific herring)
- 1366 (catch statistics, stock assessment, Atlantic salmon, Vancouver I.)
- 1367 (migrations, tagging, sockeye salmon, Alberni Inlet, Vancouver I.)
- 1372 (harvesting, roe, Pacific herring, Queen Charlotte Is.)
- 1381 (production, trophic structure, Middle Quinsam L., Long L.)
- 1385 (diets, evaluation, coho salmon)
- 1386 (pollution effects, supersaturation, salmonids, Nechako R.)
- 1388 (water analysis, pH, streams, salmonids)
- 1389 (water analysis, pH, salmonids, Hat Creek area)
- 1390 (aquaculture techniques, aeration, chinook salmon, Puntledge hatchery)
- 1394 (abundance, food, Pacific mackerel, Vancouver I.)
- MF 1773 (physical oceanography, continental shelf, W Vancouver I.)
- 1774 (stock assessment, resource management, shellfish)
- 1775 (landing statistics, age composition, Pacific cod, Vancouver I.)
- 1779 (parasites, *Briarosaccus callosus*, golden king crab, Portland Inlet, N B.C.)
- 1780 (stock assessment, run reconstruction, sockeye salmon)
- 1783 (scales, regeneration, sockeye salmon, Fraser R., Skeena R.)
- 1784 (landing statistics, commercial fishing, Pacific salmon)
- 1785 (stock assessment, run reconstruction, pink salmon)
- 1786 (native fisheries, historical account)
- 1787 (sport fishing surveys)
- 1788 (habitat selection, brook trout, South Duck R.)
- 1789 (habitat improvement, estuarine rehabilitation, Campbell R. estuary, Vancouver I.)
- 1795 (fishery surveys, roe fisheries, Pacific herring)
- 1796 (habitat improvement, survey guidelines)
- 1798 (stock assessment, fish eggs, Pacific herring, Barkley Sound)
- 1799 (pulp wastes, feeding behavior, invertebrates, fishes, Somass R. estuary, Vancouver I.)
- 1801 (sport fishing statistics, logbooks, Pacific salmon)
- 1802 (angling, census, demersal fishes)
- 1808 (data collections, information retrieval, salmonids)
- 1810 (environmental surveys, habitat, fishes, Sechart Inlet)
- 1813 (stock assessment, fishery management, demersal fishes)
- 1814 (stock assessment, chum salmon, Queen Charlotte Is.)
- 1815 (tagging, juveniles, coho salmon, Pitt R.)
- 1817 (groundwater quality, hatcheries, chum salmon, Mathers Creek, Queen Charlotte Is.)
- 1818 (fishery surveys, stock assessment, abalone, Queen Charlotte Is.)
- 1825 (distribution, stock assessment, Pacific hake, walleye pollock, Vancouver I.)
- 1826 (catch statistics, fishery management, abalone)
- 1829 (biological surveys, aquatic plants, invertebrates, fishes, Campbell R. estuary, Vancouver I.)
- 1830 (pollution effects, hatchery effluents, aquatic organisms)
- 1832 (biological production, water quality, salmonids, Quinsam R. watershed, Vancouver I.)
- 1835 (distribution, abundance, juveniles, sablefish, W Vancouver I.)
- 1837 (roe surveys, stock assessment, Pacific herring, W Vancouver I.)
- 1838 (experimental fishing, gillnets, sockeye salmon, chum salmon, Upper Dean channel)
- DF 409 (hatchery sites, water quality analysis, Pacific salmon)
- 460 (population number, hunting statistics, Stellar sea lion, California sea lion)
- 461 (population structure, biological sampling, lingcod, W Vancouver I.)
- 462 (meteorological observations, fish farming, Pacific salmon, Nanaimo, Vancouver I.)



- 463 (body size, survival, chinook salmon, Campbell R.)
- 464 (landing statistics, vessel horse power)
- 470 (age determination, inventory, fishes)
- 471 (sampling, zooplankton, Campbell R. estuary, Vancouver I., Discovery Passage)
- 476 (biological sampling, meiobenthos, Campbell R. estuary, Vancouver I., Discovery Passage)
- 479 (catch/effort, food fishery, Fraser R.)
- 483 (biological sampling, meiobenthos, Calanoida, Copepoda, Campbell R. estuary, Vancouver I., Discovery Passage)
- 492 (water analysis, sediment analysis, Fraser R.)
- 493 (tag recoveries, Pacific herring)
- 495 (habitat, escapement, salmonids, Lower Fraser R.)
- 496 (aquaculture techniques, Pacific salmon, steelhead trout)
- 497 (catch statistics, salmonids, Campbell R., Vancouver I., Discovery Passage)
- 499 (biological sampling, meiobenthos, Campbell R. estuary, Vancouver I., Discovery Passage)
- 502 (population structure, biological sampling, Pacific herring)
- 504 (habitat, escapement, salmonids, Vancouver I.)
- 506 (geographical distribution, habitat, salmonids)
- 507 (catch statistics, seining, salmonids)
- 512 (catch statistics, food fish, salmonids, Fraser R.)
- 513 (length-weight relationships, juveniles, salmonids, Campbell R. estuary, Vancouver I., Discovery Passage)
- 515 (migrations, tagging, spiny dogfish)
- 516 (check lists, biological sampling, zooplankton, Campbell R. estuary, Vancouver I.)
- 518 (catalogues, spawning escapement, salmonids, Fraser R. watershed)
- 520 (feeding behavior, zooplankton, salmonids, Campbell R. estuary, Vancouver I.)
- 521 (catalogues, spawning escapement, salmonids, Chilliwak--Hope region)
- 526 (fishery surveys, fecundity, Pacific ocean perch)
- 527 (tagging, population structure, salmonids, Campbell R. estuary, Vancouver I., Discovery Passage)
- 529 (catch/effort, chum salmon, Fraser R.)
- IF 154 (tagging, Pacific herring)
- 157 (processing fishery products, marketing, *Aurelia aurita*)
- 161 (catch statistics, roe, Pacific herring)
- 162 (catch statistics, roe, Pacific herring)
- 163 (catch statistics, roe, Pacific herring)
- 165 (roe survey, stock assessment, Pacific herring)
- 166 (roe surveys, stock assessment, Pacific herring)
- TH 38 (biogeochemical oceanography, Saanich Inlet, Vancouver I.)
- 56 (feeding behavior, juveniles, Cassin's auklet)
- DH 23(1) (water properties, off Vancouver I.)
- (2) (water properties, off Vancouver I.)
- (3) (water properties, off Vancouver I.)
- 25 (physical oceanographic data, coastal B.C.)
- 26 (oceanographic data, coastal waters, SW Vancouver I.)
- 29 (crude oil, marine organisms, Patricia Bay, Vancouver I.)
- 30 (oceanographic data, coastal waters)
- 36 (oceanographic data, coastal waters)
- 37(1) (inventories, physical oceanographic data)
- 40 (physical oceanography, current meter data, Vancouver I.)
- 41 (temperature, salinity, off B.C.)
- S 3331 (disease detection, *Cryptobia salmositica*, Pacific salmon)
- 3343 (parasites, new species, *Acanthochondria dojirii*, *A. margolisi*, *A. vancouverensis*, marine fishes)
- 3345 (parasites, taxonomy, *Trichodina truttae*, Pacific salmon, steelhead trout)
- 3350 (feeding behavior, predation, *Orchestoidea californiana*, staphylinid beetle, W Vancouver I.)
- 3368 (albinism, sablefish, Quatsino Sound)
- 3383 (food preferences, forage fish, rhinoceros auklet)
- 3397 (age composition, morphology, chum salmon, S B.C.)
- 3398 (parasitism, *Notostomum cyclostoma*, golden king crab, red king crab, tanner crab, fishes)
- 3402 (parasitism, *Briarosaccus callosus*, golden king crab, N B.C.)
- 3406 (distribution, infestations, *Crystobia salmositica*, Pacific salmon)
- 3465 (physical oceanography, tidal resonance, Alice Arm)
- 3466 (population genetics, phenotypic variations, chum salmon)
- 3474 (new records, *Ceratomyxa shasta*, pink salmon, Fraser R.)
- 3480 (coal, environmental impact, Roberts Bank)
- 3507 (environmental impact, coal, salmonids, Fraser R. estuary)

- 3552 (ocean dumping, dredging, benthos, Alberni Inlet, Vancouver I.)  
 3556 (parasites, juveniles, *Ceratomyxa shasta*, chinook salmon, Fraser R.)  
 3557 (disease resistance, Dungeness crab)  
 3561 (morphology, enzymes, pink salmon, S B.C.)
- British Isles  
 J 42 : 776 (stock discrimination, population genetics, sea lamprey)  
 TS 5183 (fishery surveys, W British Isles)
- C
- Caddisflies (see Trichoptera)
- Calanoida (see Crustacea)
- Calanus (see Crustacea)
- California State, USA  
 J 42 : 389 (resource management, fishermen)  
 : 459 (population dynamics, mathematical models, coho salmon)  
 : 919 (migrations, tagging, Dungeness crab, N CA)  
 (S1) : 69 (year-class strength, survival, northern anchovy)
- Caligus (see Crustacea)
- Caligus sicarius* (Crustacea)  
 S 3388 (taxonomy, new species, Gulf of Aqaba, Egypt)
- Callorhinus ursinus* (see Seal, northern fur)
- Canada (see also Provinces; also Territories)  
 J 42 : 2 (catch/effort, variance analysis)  
 : 389 (resource management, fishermen)  
 : 455 (insecticides, stock identification, American eel, E Canada)  
 : 474 (stock identification, fishery management, snow crab, E Canada)  
 : 845 (fishery management, fishery resources)  
 : 1614 (fishing power, trawlers, Pacific cod, W Canada)  
 : 1681 (chlorine compounds, sociological aspects, Niagara R.)  
 SP 79 (fishing rights, directories, E Canada)  
 82 (sportfishing, conferences)  
 TF 1392 (parasitism, *Pseudoterranova decipiens*, *Anisakis simplex*, *Contracaecum osculatum*, Atlantic cod, flatfishes, E Canada)  
 DH 5(7) (physical oceanographic data, Canada Basin)  
 18 (shipboard computers, sea trials)  
 S 3400 (toxicity tests, marine environment)  
 3466 (viral diseases, serum inhibitors, rainbow trout)  
 3498 (oceanographic data collections, management)
- 3569 (parasites, Brachyura, E Canada)
- Cancer borealis* (see Crab, Jonah)  
*irroratus* (see Crab, rock (Atlantic))  
*magister* (see Crab, Dungeness)
- Capelin (*Mallotus villosus*)  
 J 42 : 976 (feeding behavior, abundance, whales, Nfld.)  
 TF 1310 (stock assessment, bycatch, Atlantic cod, Nfld.)
- Caranx trachurus* (see Mackerel, horse)
- Carcharhinus plumbeus* (see Shark, sandbar)
- Carp, Indian (*Catla catla*)  
 S 3520 (endocrinology)
- Catla catla* (see Carp, Indian)
- Catostomus commersoni* (see Sucker, white)
- Ceratomyxa* (see Myxosporidia; see also Diseases and Parasites)
- Cerorhinca monacerata* (see Auklet, rhinoceros)
- Char (see Dolly Varden)
- Char, Arctic (*Salvelinus alpinus*) (Arctic charr)  
 TF 1345 (bibliographies, World Waters)  
 MF 1804F (acidification, freshwater lakes, Que.)  
 DF 519 (catch statistics, population structure, Cambridge Bay, Rankin Inlet, N.W.T.)  
 531 (experimental fishing, stock assessment, N.W.T.)  
 S 3329 (stock identification, meristic counts, Labrador, Nfld.)  
 3444 (viral diseases, necrosis, Fish Creek, N.W.T.)  
 3454 (life history, Fraser R., N Labrador)  
 3500 (stock identification, Labrador)  
 3501 (historical development, commercial fishing, N Labrador)  
 3505 (acidification, behavioral responses)  
 3506 (pollution, behavioral responses)  
 3562 (historical account, research programs, Nfld.)  
 TS 5135 (parasites, life cycle, L. Azabach'e, Kamchatka, USSR)
- Char, spotted (*Salvelinus leucomaenis*)  
 TF 1345 (bibliographies, World Waters)  
 TS 5133 (parasites, check lists, helminths, E USSR)
- Charr, Arctic (see Char, Arctic)  
 brook (see Trout, brook)

- Chile  
 TS 5172 : (population dynamics, resource management, *Lessonia nigrescens*) : 3 (taxonomy, World Waters)  
 : 21 (racial studies, adaptations, *Clupea* spp., Northern Hemisphere)  
 : 31 (population dynamics, population control, World Waters)  
 : 275 (synopsis, conferences, World Waters)
- Chionoecetes bairdi* (see Crab, tanner)  
*opilio* (see Crab, snow)
- Chironomidae (Diptera)  
 J 42 : 406 (heavy metals, community composition, OH)  
 : 483 (digestion, stomach content, slimy sculpin, Toolik L., AK)  
 : 1296 (production, Sand R., Alta.)  
 : 1418 (growth, density dependence)  
 : 1881 (pollution effects, abnormalities, chironomid larvae)  
 S 3412 : (taxonomy, *Oschia dorsenna* n.gen., n.sp., *Saetheria hirta* n.sp.)  
 3413 : (morphology, taxonomy, *Gymnometriocnemus* spp., *Raphidocladus* n.subgen., *Sublettiella* n.gen.)  
 3414 : (taxonomy, developmental stages, *Antillocladius pluspilalus*)  
 3422 : (pollution effects, insecticides, midges, *Chironomus tentans*)
- Chironomus* (see Chironomidae)
- Chlamydomonas* (see Algae)
- Chlamys islandica* (see Scallop, Iceland)
- Chrysochromulina* (see Algae)
- Cisco, least (*Coregonus sardinella*)  
 TF 1336 : (migratory behavior, feeding, Tuktoyaktuk Peninsula, N.W.T.)
- Cladocera (see Crustacea)
- Clam, soft-shell (*Mya arenaria*)  
 TF 1309 : (catch statistics, conversion factors, Scotia-Fundy Region, NW Atl.)  
 MF 1807 : (surveys, stock assessment, Annapolis Basin, N.S.)  
 1812 : (surveys, stock assessment, Charlotte County, N.B.)  
 1842 : (surveys, Buckmans Creek, Charlotte County, N.B.)
- Clam, Stimpson's surf (*Spisula polynyma*)  
 IF 155 : (stock assessment, Scotian Shelf, Georges Bank, NW Atl.)
- Clams (see Mollusca)
- Clupea harengus harengus* (see Herring, Atlantic)  
*harengus membras* (see Herring, Baltic)  
*harengus pallasii* (see Herring, Pacific) (*Clupea pallasii*)
- Clupeoidei  
 J 42(S1) : 2 (conferences, fishery management, World Waters)
- Cod, Atlantic (*Gadus morhua*)  
 J 42 : 608 (skin, breeding tubercles)  
 : 1580 (stock identification, morphology)  
 : 1823 (chemotaxonomy, fish eggs)  
 TF 1201F : (parasites, *Phocanema decipiens*, *Anisakis* sp., *Contracaecum* sp., S Gulf of St. Lawrence)  
 1310 : (stock assessment, bycatch, capelin, Nfld.)  
 1383 : (odor, quality control)  
 1387 : (distribution, autumn, Gulf of St. Lawrence)  
 1392 : (parasitism, *Pseudoterranova decipiens*, *Anisakis simplex*, *Contracaecum osculatum*, E Canada)  
 S 3339 : (exploitation, management, E Labrador, Nfld.)  
 3360 : (tagging, stock identification, Nfld., Labrador)  
 3387 : (histopathology, *Aeromonas salmonicida*)  
 3459 : (pollution effects, crude oil)  
 TS 5144 : (enzyme activity, frozen storage)
- Cod, Greenland (*Gadus ogac*)  
 J 42 : 608 (skin, breeding tubercles)
- Cod, Pacific (*Gadus macrocephalus*)  
 J 42 : 608 (skin, breeding tubercles)  
 : 1614 (fishing power, trawlers, W Canada)  
 MF 1775 : (landing statistics, age composition, Vancouver I., B.C., Queen Charlotte Sound, Hecate Strait, NE Pac.)  
 DF 464 : (landing statistics, vessel horse power, B.C.)  
 517 : (age composition, landings, Strait of Georgia, Strait of Juan de Fuca, NE Pac.)  
 S 3342 : (age determination, N Pac.)  
 3384 : (geographical distribution, vertical distribution, N Pac.)
- Coelenterata  
 IF 157 : (processing fishery products, marketing, *Aurelia aurita*, B.C.)  
 TS 5120 : (parasites, *Cyanea capillaria*, whiting, horse mackerel)
- Colorado State, USA  
 J 42 : 210 (drift sampling, methodology, invertebrates, Cement Creek)  
 : 1249 (sediment pollution, lead, Rocky Mountain National Park)

## Computer programs and Data processing

- TF 1308 (mathematical models, algorithms)  
 1328 (primary production)  
 1371 (oceanographic data acquisition)  
 1384 (manuals, experimental research)  
 1395 (catch statistics, data processing)  
 DF 501 (data processing, pollution effects, salmonids)  
 DH 18 (shipboard computers, sea trials, Canada)

## Conferences

- J 42(S1) : 2 (population dynamics, fishery management, Clupeoidei, World Waters)  
 : 275 (synopsis, Clupeoidei, World Waters)  
 SP 82 (sport fishing, resource management, Canada)  
 B 213 (biological oceanography, ecosystem theory)  
 TF 1326 (escapement, stream indexing, Pacific salmon)  
 1347 (multispecies fisheries, fishery management, Scotian Shelf)  
 1359 (life history, larvae, fishes, B.C.)  
 TH 28 (water currents, mathematical models, Grand Banks, NW Atl.)  
 38 (biogeochemical oceanography, Saanich Inlet, Vancouver I., B.C.)  
 CH 20 (ocean dumping, B.C.)  
 S 3362 (caddisflies)  
 3380 (fish diseases, kidneys, Pacific salmon)  
 3383 (food preferences, forage fish, rhinoceros auklet, B.C.)  
 3384 (distribution, Pacific cod, N Pac.)  
 3385 (vibriosis, immunization, fishes)  
 3386 (hydrocarbons, offshore engineering, Beaufort Sea)  
 3389 (biogeography, distribution, mayflies, Man.)  
 3415 (herbicides, sediment)  
 3490 (water levels, crustal adjustments, Great Lakes)  
 3500 (stock identification, Arctic char, Labrador)  
 3501 (historical development, commercial fishing, Arctic char, N Labrador)

## Continental shelves

- S 3534 (distribution, trophic relationships, benthos)  
 3542 (wind effects, mathematical models)

## Contracaecum (see Nematoda)

## Copepoda (see Crustacea)

## Coregonidae

- TS 5134 (taxonomy, ovaries)

## Coregonus artedii (see Herring, lake)

- clupeiformis (see Whitefish, lake)  
 nasus (see Whitefish, broad)  
 sardinella (see Cisco, least)

## Corophium (see Crustacea)

## Corrections

- J 41 : 1905 (MF 1752 should read MF 1762)  
 J 42 : 400 (to J 41 : 1439, 1528, 1675, 1764, 1816)  
 : 1448 (to J 37 : 2308, 2313)

## Cottus cognatus (see Sculpin, slimy)

## Crab, Dungeness (Cancer magister)

- J 42 : 919 (migrations, tagging, N CA)  
 S 3557 (disease resistance, B.C.)

## Crab, golden king (Lithodes aequispina)

- MF 1779 (parasites, Briarosaccus callosus, Portland Inlet, N B.C.)  
 S 3398 (parasitism, Notostomum cyclostoma)  
 3402 (parasitism, Briarosaccus callosus, N B.C.)  
 3461 (life history, NE Pac.)

## Crab, Jonah (Cancer borealis)

- TF 1403 (food, identification)  
 S 3429 (mating behavior)

## Crab, mud (Neopanope sayi)

- S 3493 (predators, American lobster)

## Crab, red king (Paralithodes camtschatica)

- S 3398 (parasitism, Notostomum cyclostoma)

## Crab, rock (Atlantic) (Cancer irroratus)

- TF 1403 (food, identification)  
 S 3493 (predators, American lobster)

## Crab, snow (Chionoectes opilio) (queen crab; spider crab)

- J 42 : 168 (vertical distribution, substrate preferences, SW Gulf of St. Lawrence)  
 : 474 (stock identification, genetics, E Canada)  
 TS 5182 (settling behavior, vertical distribution, SW Gulf of St. Lawrence)

## Crab, tanner (Chionoectes bairdi) (C. tanneri)

- S 3398 (parasitism, Notostomum cyclostoma)

## Crabs (see Crustacea)

## Crassostrea virginica (see Oyster, American)

## Crayfish (Orconectes virilis)

- J 42 : 1096 (growth, oligotrophic lakes, Experimental Lakes Area, NW Ont.)  
 S 3404 (acidification, life cycle)  
 3439 (acidity, avoidance)  
 3532 (acidification, parasites, Experimental Lakes Area, NW Ont.)

## Crenimugil crenilabris (Teleostei)

- S 3388 (parasitism, Caligus sicarius n.sp., Gulf of Aqaba, Egypt)

- Cruises (see also Fisheries and Fishable stocks)
- TF 1264 (surveys, larval Brachyura, Scotian Shelf)
- DF 461 (M/V Arctic Harvester, lingcod, W Vancouver I., B.C.)
- 486 (M/V Double Decker, fishery surveys, flatfishes, 1984, Hecate Strait, NE Pac.)
- 488 (C.G.S. G.B. Reed cruise GBR84-3, fishery surveys, groundfish species, 1984, Hecate Strait, NE Pac.)
- 491 (F/V Arctic Ocean, fishery surveys, groundfish species, 1984, Hecate Strait, NE Pac.)
- 500 (C.G.S. G.B. Reed, Pacific hake, walleye pollock, spiny dogfish, Strait of Georgia, NE Pac.)
- 525 (M/V Ocean Selector, M/V Free Enterprise No. 1, fishery surveys, Pacific ocean perch, Queen Charlotte Sound, NE Pac.)
- 526 (C.G.S. G.B. Reed cruise GBR82-1, fecundity, Pacific ocean perch, off B.C.)
- Crustacea (see also names of species)
- J 42 : 14 (length-weight relationships, environmental effects, *Thysanoessa inermis*, *T. raschii*, *Meganyctiphanes norvegica*, N Norway)
- : 189 (selective feeding, prey-predator relationships, *Bosmina longirostris*, *Epischura lacustris*)
- : 567 (feeding behavior, environmental effects, Cladocera, Ont.)
- : 724 (bioaccumulation, nickel, *Daphnia magna*)
- : 1272 (insecticides, growth)
- : 1380 (biomass, length-weight relationships, L. Erie, Bay of Quinte, L. Ontario)
- : 1430 (metabolism, fatty acids, *Artemia*)
- : 1733 (growth, habitat, *Eogammarus confervicolus*, Squemish R. estuary, B.C.)
- : 1741 (aluminum, pH, *Daphnia magna*)
- TF 1264 (surveys, abundance, larval Brachyura, Scotian Shelf)
- 1322 (identification keys, larvae, Brachyura, Scotian Shelf, Bay of Fundy, NW Atl.)
- S 3343 (parasites, taxonomy, new species, *Acanthochondria dojirii*, *A. margolis*, *A. vancouverensis*, marine fishes, B.C.)
- 3350 (feeding behavior, predation, *Orchestoidea californiana*, staphylinid beetle, W Vancouver I., B.C.)
- 3364 (parasites, *Caligus epidemicus*, tiger prawn, Thailand)
- 3390 (toxicity, copper, *Daphnia magna*, L. Ontario)
- 3410 (water temperature, salinity, *Mesidotea* spp., Arctic)
- 3448 (physiology, biochemistry, *Calanus hyperboreus*, Jones Sound, N.W.T.)
- 3467 (diseases, parasites)
- 3496 (enzyme activity, digestion, *Corophium volutator*)
- 3513 (feeding behavior, scavengers, *Eurythenes gryllus*, Nares Abyssal Plain, NW Atl.)
- 3568 (taxonomy, check lists, Gammaridea, Bay of Fundy, NW Atl.)
- TS 5147 (bioaccumulation, cadmium, *Corophium volutator*)
- Cryptobia (see Protozoa)
- Cyanea (see Coelenterata)
- Cyclostomata
- TS 5171 (taxonomy, biological data, *Lampetra spadicea*, *Tetrapleurodon geminis*, *T. spadiceus*, Jacona, Mexico)
- 5173 (population structure, life history, *Eudontomyzon danfordi*, Romania)
- 5180 (morphology, taxonomy, *Entosphenus tridentatus*, *Lampetra japonica japonica*, *L. japonica kessleri*, *L. reissneri*, Hokkaido, Japan)
- D
- Daphnia* (see Crustacea)
- Delphinapterus leucas* (see Whale, white)
- Delphinus delphis* (see Dolphin, common)
- Denmark
- TS 5163 (fish handling, equipment, trash fish)
- 5186 (fishing gear materials, gear research)
- Diatoms (see Algae)
- Dinoflagellates (see Protozoa)
- Diseases and Parasites
- J 42 : 268 (bubble disease, gas supersaturation, rainbow trout, SW Man.)
- : 342 (parasites, morphology, *Pseudocarcinonemertes homari*, American lobster, Bay of Fundy, NW Atl.)
- : 351 (parasites, life cycle, *Pseudocarcinonemertes homari*, American lobster)
- : 357 (serological studies, alimentary organs, *Pseudocarcinonemertes homari*, American lobster)
- : 360 (geographical distribution, seasonal variations, *Pseudocarcinonemertes homari*,



- American lobster, Maritime Provinces)
- : 1290 (immunity, agglutinins, *Aeromonas salmonicida*, salmonids)
- : 1312 (detection, *Henneguya salminicola*, sockeye salmon)
- : 1321 (viral diseases, fish culture, white sturgeon)
- : 1957 (parasites, indicator species, Atlantic herring, NW Atl.)
- : 1986 (parasite control, chlorine, salmon leech, coho salmon)
- TF 1201F (parasitism, *Phocanema decipiens*, *Anisakis* sp., *Contracaecum* sp., Atlantic cod, American plaice, witch flounder, S Gulf of St. Lawrence)
- 1303 (parasites, marine fishes, B.C.)
- 1348 (kidneys, haematology, rainbow trout)
- 1364 (water pollution treatment, *Ceratomyxa shasta*, chinook salmon, Fraser R., B.C.)
- 1392 (parasitism, *Pseudoterranova decipiens*, *Anisakis simplex*, *Contracaecum osculatum*, Atlantic cod, flatfishes, E Canada)
- MF 1779 (parasites, *Briarosaccus callosus*, golden king crab, Portland Inlet, N B.C.)
- S 3331 (disease detection, *Cryptobia salmositica*, Pacific salmon, B.C.)
- 3338 (antigens, analysis, *Aeromonas hydrophila*)
- 3343 (taxonomy, *Acanthochondria dojirii*, *A. margolisi*, *A. vancouverensis*, marine fishes, B.C.)
- 3345 (taxonomy, *Trichodina truttae*, Pacific salmon, steelhead trout, B.C.)
- 3356 (parasites, taxonomy, *Pleistophora hippoglossoides*, American plaice, NW Atl.)
- 3364 (parasites, *Caligus epidemicus*, tiger prawn, Thailand)
- 3380 (vectors, fish eggs, *Renibacterium salmoninarum*, Pacific salmon)
- 3385 (vibriosis, immunization, fishes)
- 3387 (histopathology, *Aeromonas salmonicida*, Atlantic cod)
- 3388 (fish parasites, *Caligus sicarius* n.sp., *Crenimugil crenilabris*, Gulf of Aqaba, Egypt)
- 3398 (parasitism, *Notostomum cyclostoma*, golden king crab, red king crab, tanner crab, fishes, B.C.)
- 3402 (parasitism, *Briarosaccus callosus*, golden king crab, N B.C.)
- 3406 (distribution, infestations, *Cryptobia salmositica*, Pacific salmon, B.C.)
- 3434 (fish culture, tropical zones)
- 3435 (bacterial diseases, book reviews, fishes)
- 3436 (terminology, *Lepeophtheirus salmonis*, *Binoculus salmoneus*)
- 3440 (parasites, *Histriobdella homari*, American lobster, Maritime Provinces)
- 3441 (environmental effects, *Cryptobia salmositica*, Pacific salmon)
- 3442 (bacterial diseases, migrations, American eel, St. Lawrence River estuary)
- 3444 (viral diseases, necrosis, Arctic char, Fish Creek, N.W.T.)
- 3446 (viral diseases, serum inhibitors, rainbow trout, Canada)
- 3457 (check lists, parasites, redfishes, NW Atl.)
- 3460 (parasites, check lists, fishes, NE Pac.)
- 3467 (diseases, parasites, Crustacea)
- 3474 (new records, *Ceratomyxa shasta*, pink salmon, Fraser R., B.C.)
- 3497 (parasites, trematodes, winter flounder, Passamaquoddy Bay, N.B.)
- 3502 (parasites, helminths, pollock, Scotian Shelf)
- 3532 (acidification, parasites, freshwater crayfish, Experimental Lakes Area, NW Ont.)
- 3550 (viruses, pathology, fishes)
- 3556 (juveniles, *Ceratomyxa shasta*, chinook salmon, Fraser R., B.C.)
- 3557 (disease resistance, Dungeness crab, B.C.)
- 3558 (immunization, *Aeromonas salmonicida*, coho salmon)
- 3559 (immunization, *Aeromonas salmonicida*, coho salmon)
- 3569 (parasites, *Brachyura*, E Canada)
- TS 5112 (parasites, helminths, Baltic seal, Ladoga seal, grey seal, Baltic Sea, L. Ladoga, USSR)
- 5115 (diseases, therapy, *Aeromonas salmonicida*, rainbow trout, brown trout)
- 5116 (drugs, toxicity, rainbow trout)
- 5117 (detection, methodology, *Myxosoma cerebralis*, rainbow trout)
- 5120 (parasites, juveniles, *Cyanea capillaria*, whiting, horse mackerel)
- 5133 (parasites, check lists, helminths, Dolly Varden, spotted char, E USSR)
- 5135 (parasites, life cycle, Arctic char, L. Azabach'e, Kamchatka, USSR)
- 5143 (parasites, identification keys, microsporidians)
- 5149 (fungal diseases, literature reviews, fishes)
- 5159 (hatcheries, salmonids, Hiroshima Prefecture, Japan)
- 5160 (parasites, nervous tissue, myxosporidians, salmonids, Hiroshima Prefecture, Japan)
- 5161 (parasites, nervous tissue, myxosporidians, salmonids, Hiroshima Prefecture, Japan)
- 5185 (parasites, check lists, myxosporidians, marine fishes,



- Norway)  
 5193 (therapy, *Aeromonas salmonicida*, salmonids)  
 5194 (therapy, immunity, *Yersinia ruckeri*, rainbow trout)
- Distribution and abundance  
 J 42 : 168 (vertical, substrate preferences, snow crab, SW Gulf of St. Lawrence)  
 : 332 (dispersion, retention, juveniles, rainbow smelt, St. Lawrence R. estuary)  
 : 676 (beluga, narwhal, Arctic)  
 : 701 (vertical, water transparency, aquatic plants)  
 : 880 (geographical, oceanographic features, Atlantic herring, Gulf of Maine, Scotian Shelf)  
 : 976 (feeding behavior, correlation analysis, whales, capelin, Nfld.)  
 : 1033 (geographical, escapement, Pacific salmon, B.C.)  
 : 1178 (vertical, prediction, lake herring, yellow perch, WI)  
 : 1189 (ringed seal, bearded seal, Arctic)  
 : 1248 (geographical, vocalization behavior, ringed seal, Barrow Strait, N.W.T.)  
 : 1259 (population number, food availability, common merganser, Vancouver I., B.C.)  
 : 1380 (biomass, length-weight relationships, Crustacea, L. Erie, Bay of Quinte, L. Ontario)
- SP : population number, seasonal migrations, Stellar sea lion, California sea lion, B.C.)  
 : (surveys, larval Brachyura, Scotian Shelf)  
 1300 (geographical, temporal, demersal fishes, Scotian Shelf, Bay of Fundy, NW Atl.)  
 1333 (echo surveys, Pacific herring, W Vancouver I., B.C.)  
 1350 (bowhead whale, Beaufort Sea)  
 1352 (migrations, stock assessment, chinook salmon, Yukon R. basin, B.C., Y.T.)  
 1374 (vertical, lakes, slimy sculpin, NW Ont.)  
 1377 (population dynamics, juveniles, fishes, Bay of Quinte, Ont.)  
 1387 (autumn, Atlantic cod, Gulf of St. Lawrence)  
 1394 (Pacific mackerel, W Vancouver I., B.C.)  
 MF 1825 (stock assessment, Pacific hake, walleye pollock, Vancouver I., B.C., WA)  
 1835 (juveniles, sablefish, W Vancouver I., B.C.)  
 DF 460 (population number, hunting statistics, Stellar sea lion, California sea lion, B.C., WA, AK)
- 503 (vertical, abundance, zooplankton, Frobisher Bay, Arctic)  
 506 (geographical, habitat, salmonids, B.C.)  
 IF 155 (stock assessment, ocean quahaug, Stimpson's surf clam, Scotian Shelf, Georges Bank, NW Atl.)  
 TH 52 (marine birds, Hecate Strait, Queen Charlotte Sound, NE Pac.)  
 S 3351 (stock assessment, shortnose sturgeon, Saint John R., N.B.)  
 3384 (geographical, vertical, Pacific cod, N Pac.)  
 3524 (trophic relationships, benthos, continental shelves)  
 3555 (length, juveniles, short-finned squid, NW Atl.)  
 TS 5154 (local movements, aquatic oligochaetes, NW USSR)  
 5156 (ecology, *Potamothrix hammoniensis*, Europe, USSR)  
 5162 (Atlantic argentine, Barents Sea, Spitsbergen)  
 5177 (stock assessment, pomfret, N Pac.)  
 5182 (vertical, settling behavior, snow crab, SW Gulf of St. Lawrence)
- Dogfish, spiny (*Squalus acanthias*)  
 J 42 : 1799 (age determination, fins)  
 MF 1833 (sportfishing, catch/effort, Strait of Georgia, NE Pac.)  
 DF 500 (fishery surveys, population structure, Strait of Georgia, NE Pac.)  
 515 (migrations, tagging, B.C.)
- Dolly Varden (*Salvelinus malma*) (char)  
 J 42 : 101 (interspecific relationships, feeding behavior, cutthroat trout, lakes, B.C.)  
 : 785 (feeding behavior, visual stimuli)  
 TF 1345 (bibliographies, World Waters)  
 TS 5133 (parasites, check lists, helminths, E USSR)
- Dolphin, bottlenose (*Tursiops truncatus*)  
 J 42 : 216 (regeneration, wounds)  
 : 430 (oil slicks, light effects)
- Dolphin, common (*Delphinus delphis*)  
 TS 5176 (circulatory system, fins)
- E
- Economics and Sociology  
 J 42 : 256 (sociological aspects, fishermen, SW N.S.)  
 : 307 (financial viability, culture, freshwater prawn, HI)  
 : 1681 (chlorine compounds, sociological aspects, Niagara R., Canada, USA)  
 : 2050 (fishing rights, common property resources)  
 DF 540 (profiles, fishing communities,

- Scotia-Fundy Region, NW Atl.)  
 IF 149 : (fishery products, marketing, Maritime Provinces)  
 S 3437 : (models, fisheries investments)  
 TS 5119 : (financial viability, fish rearing, Norway)  
 5130 : (financial management, fishery industry plants, Norway)  
 5169 : (fishery, harp seal, Twillingate, Nfld.)  
 5184 : (fish culture, economic analysis, salmonids, Norway)
- Eel, American (*Anguilla rostrata*)  
 J 42 : 185 (hormones, growth, elvers)  
 : 455 (insecticides, stock identification, E Canada)  
 S 3369 : (electroanalysis, mortality, St. Lawrence R. estuary)  
 3442 : (migrations, bacterial diseases, St. Lawrence R. estuary)
- Eel, European (*Anguilla anguilla*)  
 J 42 : 1342 (interspecific relationships, food availability, bream, Tjeukemeer L., Netherlands)
- Egypt  
 S 3388 : (fish parasite, new species, *Caligus sicarius*, Gulf of Aqaba)
- Engraulis capensis* (see Anchovy)  
*mordax* (see Anchovy, northern)
- Entosphenus* sp. (see Cyclostomata)
- Environmental effects  
 J 42 : 194 (light, spawning, American lobster)  
 : 384 (light, enzyme activity, *Selenastrum capricornutum*)  
 : 430 (oil slicks, light, bottlenose dolphin)  
 : 567 (feeding behavior, Cladocera, Ont.)  
 : 593 (water temperature, migrations, smolts, Atlantic salmon, Imsa R., Norway)  
 : 602 (El Niño phenomenon, survival, Pacific mackerel, California Current, NE Pac.)  
 : 947 (temperature, survival, fishes)  
 : 999 (tides, light intensity, algae, Manitounuk Sound, Hudson Bay)  
 : 1158 (tides, suspended particulate matter, blue mussel, St. Lawrence R. estuary)  
 : 1171 (organic nitrogen, atmospheric precipitation, phytoplankton, L. Taupo, New Zealand, L. Biwa, Japan)  
 : 1513 (water temperature, migrations, Atlantic salmon, Dee R., Scotland)  
 : 1522 (water temperature, current velocity, lake whitefish, cisco)  
 : 1608 (recruitment, temperature, alewife, South Bay, L. Huron)
- 1640 (growth, survival, American shad, Connecticut R., USA)  
 1755 (temperature, biological development, chum salmon, Nitinat R., B.C.)  
 1922 (stream flow, biological drift, invertebrates)  
 (S1) : 91 (tides, larvae, Atlantic herring, St. Lawrence R. estuary)  
 : 138 (growth, maturation, Pacific herring, Strait of Georgia, NE Pac.)  
 : 158 (population dynamics, Atlantic herring, Gulf of Maine, NW Atl.)  
 (growth, brackish water, Atlantic salmon, Koksoak R. system, Ungava, Que.)  
 DF 494 : (sea ice, phytoplankton, zooplankton, SE Hudson Bay)  
 S 3355 : (acidification, biodegradation)  
 3382 : (temperature, nutrients, bacteria, E Arctic)  
 3410 : (water temperature, salinity, *Mesidotea* spp., Arctic)  
 3411 : (toxicants, temperature, rainbow trout)  
 3441 : (parasites, *Cryptobia salmositica*, Pacific salmon)  
 3452 : (light, growth, *Synechococcus linearis*)  
 3453 : (migrations, fisheries management)  
 3476 : (light, growth, Atlantic salmon)  
 3478 : (osmoregulation, temperature, chinook salmon)  
 3483 : (light, photosynthesis, algae, Resolute Bay, N.W.T.)  
 3517 : (lakes, invertebrates, salmonids, Matamec R., Que.)
- Environmental impact  
 J 42 : 1216 (river discharge, hydroelectric power plants, phytoplankton, Eastmain R., James Bay)  
 TF 1255 : (fishways, evaluation, Laird R., B.C.)  
 1339 : (bibliographies, tidal power, Bay of Fundy, NW Atl.)  
 1340 : (tidal power plants, American shad, Annapolis R., N.S.)  
 MF 1809 : (marinas, habitat, fishes, Strait of Georgia, NE Pac.)  
 DF 472 : (species composition, acidification, zooplankton, Experimental Lakes Area, NW Ont.)  
 TH 43 : (monitoring, nuclear power plants, Point Lepreau, N.B.)  
 CH 20 : (ocean dumping, B.C.)  
 S 3432 : (petroleum, marine organisms, Arctic)  
 3433 : (petroleum, tropical zones)  
 3472 : (chemical pollutants, aquatic animals)  
 3480 : (coal, harbors, Roberts Bank, B.C.)  
 3507 : (coal, salmonids, Fraser R. estuary, B.C.)  
 3529 : (groundwater pollution)

- 3530 (rivers, St. John's, Nfld.)  
 3537 (forest industry)  
 TS 5181 (dams, benthos, Durance R., France)
- Eogammarus* (see Crustacea)
- Ephemeroptera (mayflies)  
 J 42 : 1088 (pollution, alkalinity)  
 S 3389 (biogeography, distribution, Man.)  
 3391 (production, *Hexagenia limbata*,  
*H. rigida*, L. Winnipeg, Man.)
- Epischura* (see Crustacea)
- Erie, Lake, America  
 J 42 : 1079 (trap nets, variation analysis,  
 fishes, Long Point Bay)  
 : 1380 (biomass, length-weight  
 relationships, Crustacea)
- Erignathus barbatus* (see Seal, bearded)
- Esox lucius* (see Pike, northern)  
*lucius* X *E. masquinongy* (see Muskellunge,  
 tiger)  
*masquinongy* (see Muskellunge)
- Eudontomyzon* (see Cyclostomata)
- Eumetopias jubata* (see Sea lion, Stellar)
- Europe  
 TS 5156 (ecology, geographical distribution,  
*Potamothrix hammoniensis*)
- Eurythenes* (see Crustacea)
- Euthynnus pelamis* (see Skipjack)
- Experimental Lakes Area, Northwestern Ontario  
 J 42 : 129 (fertilization, population  
 dynamics, lake whitefish)  
 : 685 (pH effects, methyl mercury)  
 : 1096 (growth, oligotrophic lakes,  
 crayfish)  
 TF 1321 (age determination, fins, white  
 sucker)  
 1396 (acidification, population dynamics,  
 white sucker)  
 DF 472 (species composition, acidification,  
 zooplankton)  
 480 (hydrology, climatology)  
 484 (check lists, zooplankton)  
 487 (chemical limnology, water analysis)  
 509 (acidification, water chemistry  
 data)  
 S 3353 (acidification, bacterial sulphate  
 reduction)  
 3468 (pollution monitoring, uranium)  
 3469 (acidification, nitrogen compounds)  
 3484 (acidification)  
 3532 (acidification, parasites, crayfish)
- F
- Fish handling  
 TF 1363 (equipment, chilling storage, B.C.)
- 1372 (harvesting, roe, Pacific herring,  
 Queen Charlotte Is., B.C.)  
 1383 (odor, quality control, Atlantic  
 cod)  
 1393 (irradiation, evaluation)  
 IF 157 (processing fishery products,  
 marketing, *Aurelia aurita*, B.C.)  
 158 (fish wastes, fish silage, fishes,  
 Lac La Biche, Alta.)  
 159 (ice, processing fishery products)  
 S 3348 (equipment, lifting tackle)  
 TS 5113 (transportation, container ships,  
 sprat, Norway)  
 5131 (processing fishery products, fish  
 fillets, Norway)  
 5139 (processing fishery products,  
 freezing storage, Japan)  
 5144 (enzyme activity, frozen storage,  
 Atlantic cod)  
 5145 (enzyme activity, frozen storage,  
 skipjack)  
 5146 (enzyme activity, frozen storage,  
 skipjack)  
 5163 (equipment, trash fish, Denmark)  
 5167 (quality control, canned products,  
 Pacific sardine, masou salmon,  
 Japan)  
 5191 (processing fishery products,  
 Iceland scallop, Norway)
- Fisheries and Fishable stocks  
 J 42 : 2 (catch/effort, variance analysis,  
 Canada)  
 : 44 (mathematical models, fishery  
 management)  
 : 51 (fishing power, purse seine  
 fleet, Pacific salmon, B.C.)  
 : 147 (stock assessment, time series  
 analysis)  
 : 150 (stock assessment, search  
 effectiveness model, Pacific ocean  
 perch, B.S.)  
 : 250 (stock identification, scales,  
 Atlantic salmon, N.S.)  
 : 389 (resource management, fishermen,  
 E Canada, CA)  
 : 474 (stock identification, genetics,  
 snow crab, E Canada)  
 : 718 (stock/recruitment, fishery  
 management)  
 : 815 (stock assessment, mathematical  
 models, Pacific halibut)  
 : 845 (fishery management, fishery  
 resources, Canada)  
 : 888 (stock assessment, methodology,  
 Atlantic herring, NW Atl.)  
 : 952 (bioeconomic models, fishery  
 management)  
 : 982 (fishing effort, fishery  
 management, anchovy, Atlantic  
 menhaden, Pacific ocean perch)  
 : 989 (catchability, fishing grounds,  
 Atlantic herring, NW Atl.)  
 : 1066 (mathematical models, catch/  
 effort)  
 : 1079 (trap nets, variation analysis,

- fishes, Long Point Bay, L. Erie)
- : 1315 (stock assessment, production, fishes, Turkey Lakes watershed, N Ont.)
- : 1371 (mathematical models, fishery management, Atlantic menhaden)
- : 1423 (statistical models, catch/effort, Pacific halibut)
- : 1614 (fishing power, trawlers, Pacific cod, W Canada)
- : 1649 (catchability, population density, American shad, Connecticut R., USA)
- : 1806 (biological sampling, eggs, Pacific herring, Strait of Georgia, NE Pac.)
- : 1815 (fishways, design, nonsalmonid fishes, Lesser Slave R., Alta.)
- : 1833 (spawning populations, stock assessment)
- : 1835 (visual census, diving, northern pike, Roi L., Alta.)
- : 1928 (gear selectivity, fishing nets, juveniles, alewife, blueback herring, Saint John R., N.B.)
- : 2050 (fishing rights, common property resource)
- (S1) : 2 (conferences, fishery management, Clupeoidei, World Waters)
- : 192 (recruitment, fishery management, Atlantic herring, North Sea)
- : 207 (stock assessment, fishery management, Atlantic herring, NE Atl.)
- : 222 (historical account, Pacific herring, Japan)
- : 230 (fishery management, Pacific herring, NE Pac.)
- : 245 (mathematical models, fishery management, Atlantic herring)
- : 258 (evaluation, fishery management, Pacific herring, B.C.)
- : 263 (population dynamics, fishery management, Atlantic herring, Fortune Bay, Nfld.)
- SP 79 (fishing rights, directories, E Canada)
- TF 1289 (stock assessment, spawning populations, Pacific hake, walleye pollock, Strait of Georgia, NE Pac.)
- 1292 (landing statistics, fishing vessels, chinook salmon, B.C.)
- 1304 (landing statistics, fishing vessels, coho salmon, B.C.)
- 1309 (catch statistics, conversion factors, soft-shell clam, Scotia-Fundy Region, NW Atl.)
- 1310 (stock assessment, bycatch, Atlantic cod, capelin, Nfld.)
- 1311 (landing statistics, fishing vessels, Pacific salmon, B.C.)
- 1312 (catch/effort, groundfish species, B.C.)
- 1317 (surveys, pink salmon, E L. Superior)
- 1318 (surveys, bycatch, Pacific halibut, Hecate Strait, Queen Charlotte Sound, NE Pac.)
- 1323 (catch statistics, population structure, Atlantic salmon, Portugal Cove, Nfld.)
- 1329 (impoundment, roe fisheries, Pacific herring, N Gulf Is., B.C.)
- 1335 (biological sampling, age composition, chinook salmon, B.C.)
- 1347 (multispecies fisheries, fishery management, Scotian Shelf)
- 1365 (stock assessment, potential resources, Pacific herring, B.C.)
- 1366 (catch statistics, stock assessment, chum salmon, Vancouver I., B.C.)
- 1370 (surveys, introduced species, brook trout, South Duck R., Cowan Creek, Man.)
- 1376 (fishery statistics, biological production, Pacific salmon, N Pac.)
- 1378 (echo integrators, fishery management)
- 1382 (fishery management, sea scallop, Bay of Fundy, Georges Bank, NW Atl.)
- 1395 (catch statistics, data processing)
- MF 1774 (stock assessment, resource management, shellfish, B.C.)
- 1775 (landing statistics, age composition, Pacific cod, Vancouver I., B.C., Queen Charlotte Sound, Hecate Strait, NE Pac.)
- 1780 (stock assessment, run reconstruction, sockeye salmon, B.C.)
- 1784 (landing statistics, commercial fishery, Pacific salmon, B.C.)
- 1785 (stock assessment, run reconstruction, pink salmon, B.C.)
- 1786 (native fisheries, historical account, B.C.)
- 1793F (habitat improvement, resource management, American shad, St. Lawrence R.)
- 1795 (surveys, roe fisheries, Pacific herring, B.C.)
- 1798 (stock assessment, eggs, Pacific herring, Barkley Sound, B.C.)
- 1801 (sport fishing statistics, logbooks, Pacific salmon, B.C.)
- 1807 (surveys, stock assessment, soft-shell clam, Annapolis Basin, N.S.)
- 1811 (monitoring, quota regulations, Pacific hake, NE Pac.)
- 1812 (surveys, stock assessments, soft-shell clam, Charlotte County, N.B.)
- 1813 (stock assessment, fishery management, demersal fishes, B.C.)
- 1814 (stock assessment, chum salmon, Queen Charlotte Is., B.C.)
- 1818 (surveys, stock assessment, abalone, Queen Charlotte Is., B.C.)
- 1819 (fishery statistics, historical account, Pacific salmon, N Pac.)
- 1825 (distribution, stock assessment, Pacific hake, walleye pollock, Vancouver I., B.C., WA)
- 1826 (catch statistics, fishery

- management, abalone, B.C.)
- 1837 (roe surveys, stock assessment, Pacific herring, W Vancouver I., B.C.)
- 1838 (experimental fishing, gillnets, sockeye salmon, chum salmon, Upper Dean channel, B.C.)
- 1840 (catch statistics, trash fish, Queen Charlotte Sound, Hecate Strait, NE Pac.)
- 1842 (resource surveys, soft-shell clam, Buckmans Creek, Charlotte County, N.B.)
- DF 464 (landing statistics, vessel horse power, Pacific cod, B.C.)
- 475 (fishways, counters, Atlantic salmon, Saint John R., N.B.)
- 478 (commercial catch statistics, Atlantic salmon, Labrador, Nfld.)
- 479 (catch/effort, food fishery, Fraser R., B.C.)
- 481 (catch statistics, sport fishery, Atlantic salmon, Maritime Provinces)
- 485 (catch/effort, population structure, Pacific herring, Tuktoyaktuk Harbour, Liverpool Bay, N.W.T.)
- 486 (surveys, flatfishes, Hecate Strait, NE Pac.)
- 488 (fishery surveys, groundfish species, Hecate Strait, NE Pac.)
- 491 (surveys, stock assessment, demersal fishes, Hecate Strait, NE Pac.)
- 497 (catch statistics, salmonids, Campbell R., Vancouver I., Discovery Passage, B.C.)
- 500 (fishery surveys, population structure, Pacific hake, walleye pollock, spiny dogfish, Strait of Georgia, NE Pac.)
- 502 (population structure, biological sampling, Pacific herring, B.C.)
- 507 (catch statistics, seining, salmonids, B.C.)
- 511 (stock assessment, submersibles, rockfishes, Strait of Georgia, NE Pac.)
- 512 (catch statistics, food fish, salmonids, Fraser R., B.C.)
- 517 (landings, age composition, Pacific cod, Strait of Georgia, Strait of Juan de Fuca, NE Pac.)
- 519 (catch statistics, population structure, Arctic char, Cambridge Bay, Rankin Inlet, N.W.T.)
- 525 (surveys, Pacific ocean perch, Queen Charlotte Sound, NE Pac.)
- 529 (catch/effort, chum salmon, Fraser R., B.C.)
- 531 (experimental fishing, stock assessment, Arctic char, N.W.T.)
- IF 155 (stock assessment, ocean quahog, Stimpson's surf clam, Scotian Shelf, Georges Bank, NW Atl.)
- 156 (fishing gear, damage, marine mammals, off N.S.)
- 157 (processing fishery products,
- 161 marketing, *Aurelia aurita*, B.C.)
- 162 (catch statistics, roe, Pacific herring, B.C.)
- 163 (catch statistics, roe, Pacific herring, B.C.)
- 165 (catch statistics, roe, Pacific herring, B.C.)
- 166 (roe survey, stock assessment, Pacific herring, B.C.)
- S 3333 (roe survey, stock assessment, Pacific herring, B.C.)
- 3336 (acoustic surveys, design)
- 3339 (acoustic surveys, demersal fish)
- 3351 (exploitation, management, Atlantic cod, E Labrador, Nfld.)
- 3371 (stock assessment, population number, shortnose sturgeon, Saint John R., N.B.)
- 3408 (catch statistics, white whale, St. Lawrence R., Gulf of St. Lawrence)
- 3428 (investments, mathematical models)
- 3437 (models, fishery management, American lobster, Bay of Fundy, NW Atl.)
- 3453 (bioeconomic models, fisheries investments)
- 3560 (migrations, environmental factors)
- 3563 (stock assessment, rivers, salmonids, St. John's, Nfld.)
- TS 5126 (surveys, cost analysis, Atlantic salmon, Kanairiktok R., Labrador)
- 5127 (oil and gas industry, legislation, Norway)
- 5169 (oil and gas industry, legislation, Norway)
- 5174 (sociology, harp seal, Twillingate, Nfld.)
- 5183 (mesh selectivity, gillnets, pomfret, Japan)
- 5186 (surveys, W British Isles)
- 5191 (fishing gear materials, gear research, Denmark)
- (harvesting, processing fishery products, Iceland scallop, Norway)
- Fishes
- J 42 : 414 (mathematical models, catch/effort)
- : 556 (food consumption, littoral zone, L. Memphremagog, Que.)
- : 630 (pollution effects, gills)
- : 791 (learning behavior, freshwater fishes)
- : 836 (population dynamics, evaluation)
- : 947 (temperature effects, survival)
- : 1014 (otoliths, microstructure)
- : 1079 (trap nets, variation analysis, Long Point Bay, L. Erie)
- : 1114 (prey selection, plankton feeders, L. Opinicon, Ont.)
- : 1154 (interspecific relationships, forage fish, L. Michigan)
- : 1211 (biological production, comparative analysis, freshwater fishes, Poland, Ont.)



- : 1315 (stock assessment, production, Turkey Lakes watershed, N Ont.)  
 : 1712 (bioenergetics, isotope tracers, Lahontan L., NV)  
 : 1772 (metabolism, liver cells)  
 : 1815 (fishways, design, nonsalmonoid fishes, Lesser Slave R., Alta.)  
 : 2059 (mathematical models, growth) (geographical distribution, temporal distribution, demersal fishes, Scotian Shelf, Bay of Fundy, NW Atl.)  
 TF 1300  
 1303 (parasites, marine fishes, B.C.)  
 1312 (catch/effort, groundfish species, B.C.)  
 1334 (immunity, toxicity)  
 1359 (life history, larvae, B.C.)  
 1363 (equipment, chilling storage, B.C.)  
 1377 (population dynamics, abundance, juveniles, Bay of Quinte, Ont.)  
 MF 1431R (check lists, Northumberland Strait, Gulf of St. Lawrence)  
 1799 (pulp wastes, feeding behavior, invertebrates, Somass R. estuary, Vancouver I., B.C.)  
 1802 (angling, census, demersal fishes, B.C.)  
 1809 (environmental impact, marinas, Strait of Georgia, NE Pac.)  
 1810 (habitat, environmental surveys, Sechart Inlet, B.C.)  
 1813 (stock assessment, fishery management, demersal fishes, B.C.)  
 1829 (biological surveys, Campbell R. estuary, Vancouver I., B.C.)  
 DF 470 (age determination, inventory, B.C.)  
 505 (catch composition, biological sampling, Mosquito L., N.W.T.)  
 IF 158 (fish wastes, fish silage, Lac La Biche, Alta.)  
 S 3343 (parasites, taxonomy, *Acanthochondria dojirii*, *A. margolisi*, *A. vancouverensis*, marine fishes, B.C.)  
 3357 (toxicity, *Gonyaulax* spp.)  
 3398 (parasitism, *Notostomum cyclostoma*, B.C.)  
 3427 (pollution effects, organic compounds, L. Ontario)  
 3435 (bacterial diseases, book reviews)  
 3460 (parasites, check lists, NE Pac.)  
 3516 (limnology, population structure, Holyrood Pond, Avalon Peninsula, Nfld.)  
 3550 (viruses, pathology)  
 3564 (pollution effects, marine fishes, NW Atl.)  
 TS 5121 (morphology, golden banded goatfish, horse mackerel, opah, marine gar)  
 5125 (pollution, oil spills, Norway)  
 5149 (fungal diseases, literature reviews)  
 5185 (parasites, check lists, myxosporidians, marine fishes, Norway)  
 Flatfishes (see Heterosomata)  
 Flounder, winter (*Pseudopleuronectes americanus*)  
 J 42 : 1430 (metabolism, fatty acids)  
 S 3497 (parasites, trematodes, Passamaquoddy Bay, N.B.)  
 Flounder, witch (*Glyptocephalus cynoglossus*) (gray sole)  
 TF 1201F (parasites, *Phocanema decipiens*, *Anisakis* sp., *Contracaecum* sp., S Gulf of St. Lawrence)  
 Food and Feeding (see also Behavior)  
 J 42 : 101 (interspecific relationships, Dolly Varden, cutthroat trout, lakes, B.C.)  
 : 120 (prey-predator relationships, sauger, Ohio R., OH)  
 : 139 (detritus, invertebrates, Carnation Creek, B.C.)  
 : 189 (selective feeding, prey-predator relationships, *Bosmina longirostris*, *Epischura lacustris*)  
 : 368 (diets, vitamin C, juveniles, American lobster)  
 : 483 (digestion, stomach content, chironomids, slimy sculpin, Toolik L., AK)  
 : 556 (food consumption, littoral zone, fishes, L. Memphremagog, Que.)  
 : 567 (feeding behavior, environmental effects, Cladocera, Ont.)  
 : 659 (selective feeding, predation, pink salmon, chum salmon, coho salmon)  
 : 785 (feeding behavior, visual stimuli, cutthroat trout, Dolly Varden)  
 : 976 (abundance, feeding behavior, whales, capelin, Nfld.)  
 : 1114 (prey selection, plankton feeders, fishes, L. Opinicon, Ont.)  
 : 1439 (food consumption, otoliths, Atlantic herring, harbor seal)  
 : 1668 (food availability, habitat selection, cutthroat trout)  
 : 1720 (feeding behavior, prey selection, freshwater predators)  
 : 1915 (food preferences, fish culture, coho salmon)  
 TF 1325 (growth, food, threespine stickleback, Experimental Ponds Area, Nfld.)  
 1336 (migratory behavior, broad whitefish, lake whitefish, least cisco, Tuktoyaktuk Peninsula, N.W.T.)  
 1385 (diets, evaluation, coho salmon, B.C.)  
 1394 (Pacific mackerel, Vancouver I., B.C.)  
 1403 (identification, Jonah crab, rock crab)  
 MF 1799 (pulp wastes, feeding behavior, invertebrates, fishes, Somass R.



- estuary, Vancouver I., B.C.)  
 DF 520 (feeding behavior, zooplankton, salmonids, Campbell R. estuary, Vancouver I., B.C.)  
 TH 56 (feeding behavior, juveniles, Cassin's auklet, B.C.)  
 S 3349 (predation, mathematical models)  
 3350 (behavior, predation, *Orchestoidea californiana*, staphylinid beetle, W Vancouver I., B.C.)  
 3383 (food preferences, forage fish, rhinoceros auklet, B.C.)  
 3421 (aggressive behavior, juveniles, brook trout)  
 3511 (light effects, food availability, zooplankton, Jones Sound, Baffin Bay)  
 3513 (feeding behavior, scavengers, *Eurythenes gryllus*, Nares Abyssal Plain, NW Atl.)  
 3526 (feeding behavior, food webs, plankton)  
 3534 (digestion, food organisms, northern fur seal)  
 TS 5152 (ringed seal)  
 5166 (feeding behavior, digestion, ringed seal, N USSR)  
 5187 (human food, chemical analysis)  
 5190 (dissolved oxygen, fish culture effluents, Japan)  
 France  
 TS 5181 (environmental impact, dams, benthos, Durance R.)  
 Frobisher Bay (see Arctic)  
 Fundy, Bay of (see Northwest Atlantic Ocean)
- G
- Gadus macrocephalus* (see Cod, Pacific)  
*merlangus* (see Whiting)  
*morhua* (see Cod, Atlantic)  
*ogac* (see Cod, Greenland)  
 Gammaridae (see Crustacea)  
 Gar, marine (*Belone vulgaris*)  
 TS 5121 (morphology, taxonomy)  
*Gasterosteus aculeatus* (see Stickleback, threespine)  
 Genera, new (see New genera)  
 Genetics  
 J 42 : 110 (hybridization, steelhead trout, coastal cutthroat trout, streams, WA)  
 : 437 (biochemical analysis, stock identification, chum salmon, S B.C.)  
 : 474 (stock identification, fishery management, Atlantic snow crab, E Canada)  
 : 737 (stock discrimination, biological development, lake trout, Great Lakes drainage, Mississippi R. drainage)  
 : 776 (stock discrimination, sea lamprey, North America, British Isles)  
 : 1474 (stock identification, biochemical analysis, pink salmon, Puget Sound, WA, S B.C.)  
 : 1580 (stock identification, morphology, Atlantic cod)  
 : 1696 (stock identification, egg size, sockeye salmon, Stikine R., B.C.)  
 TF 1356 (stock identification, biochemistry, chum salmon, Strait of Georgia, NE Pac., Johnstone Strait, B.C.)  
 1379 (temperature effects, triploidy, rainbow trout)  
 S 3329 (stock identification, meristic counts, Arctic char, Labrador, Nfld.)  
 3341 (mutations, *Amphidinium carterae*)  
 3344 (polyploids, induction, rainbow trout)  
 3368 (albinism, sablefish, Quatsino Sound, B.C.)  
 3438 (stock identification, pink salmon, NE Pac.)  
 3466 (phenotypic variations, chum salmon, B.C.)  
 3500 (stock identification, Arctic char, Labrador)  
 3509 (genotypes, larvae, blue mussel)  
 3561 (enzymes, morphology, pink salmon, S B.C., Puget Sound, WA)  
 TS 5178 (polyploids, secondary sexual characters, Biwa gudgeon)  
 Georges Bank (see Northwest Atlantic Ocean)  
 Georgia, Strait of (see Northeast Pacific Ocean)  
 Germany, Federal Republic of  
 TS 5164 (recirculating systems, water pollution treatment)  
*Glyptocephalus cynoglossus* (see Flounder, witch) (gray sole)  
*Gnathopogon elongatus caerulescens* (see Gudgeon, Biwa)  
 Goatfish, golden banded (*Mullus dubius*)  
 TS 5121 (morphology, taxonomy)  
*Gonyaulax* spp. (see Toxicity)  
 Grass, marsh (*Spartina alterniflora*)  
 S 3417 (metabolism, sediments)  
 Grayling, Arctic (*Thymallus arcticus*)  
 TF 1287 (pollution effects, mining, Minto Creek, Y.T.)  
 Great Lakes, America (see also names of lakes)

- J 42 : 737 (stock discrimination, biological development, lake trout, Great Lakes drainage)
- S 3490 (water levels, crustal adjustments)
- Gudgeon, Biwa (*Gnathopogon elongatus caeruleus*)
- TS 5178 (polyploids, secondary sexual characters)
- Gulf of... (see name of Gulf)
- Gulf Stream
- S 3544 (thermohaline circulation, convergence zone)
- 3548 (thermohaline circulation, shelf fronts)
- Gymnometriocnemus* (see Chironomidae)
- H
- Habitat
- J 42 : 320 (nutrients, growth, sockeye salmon, coastal lakes, B.C.)
- : 1668 (selection, food availability, cutthroat trout)
- : 1733 (production, growth, *Eogammarus confervicolus*, Squamish R. estuary, B.C.)
- : 1940 (biological control, aquaculture techniques, phytoplankton)
- TF 1291 (tagging, stock assessment, harbor porpoise, Bay of Fundy, Gulf of Maine, NW Atl.)
- 1324 (fertilization, evaluation, sockeye salmon, lakes, B.C.)
- MF 1788 (selection, brook trout, South Duck R., B.C.)
- 1789 (improvement, estuarine rehabilitation, Campbell R. estuary, Vancouver I., B.C.)
- 1793F (improvement, resource management, American shad, St. Lawrence R.)
- 1796 (improvement, survey guidelines, B.C.)
- 1809 (environmental impact, marinas, fishes, Strait of Georgia, NE Pac.)
- 1810 (environmental surveys, fishes, Sechart Inlet, B.C.)
- DF 474 (escapement, rivers, Pacific salmonids, Y.T.)
- 495 (escapement, salmonids, Lower Fraser R., B.C.)
- 504 (escapements, salmonids, Vancouver I., B.C.)
- 506 (geographical distribution, rivers, salmonids, B.C.)
- S 3327 (improvement, fishways)
- 3330 (improvement, fishways)
- 3503 (population structure, benthos, St. Lawrence R. estuary)
- Haddock (*Melanogrammus aeglefinus*)
- J 42 : 1823 (chemotaxonomy, fish eggs)
- Hake, Pacific (*Merluccius productus*) (Pacific whiting)
- TF 1289 (stock assessment, spawning populations, Strait of Georgia, NE Pac.)
- MF 1811 (monitoring, quota regulation, NE Pac.)
- 1825 (distribution, stock assessment, Vancouver I., B.C., WA)
- DF 500 (fishery surveys, population structure, Strait of Georgia, NE Pac.)
- Halibut, Pacific (*Hippoglossus stenolepis*)
- J 42 : 815 (stock assessment, mathematical models)
- : 1423 (statistical models, catch/effort)
- : 1766 (mathematical models, equilibrium yields)
- TF 1318 (surveys, bycatch, Hecate Strait, Queen Charlotte Sound, NE Pac.)
- Halichoerus grypus* (see Seal, grey)
- Haliotis kamtschatkana* (see Abalone)
- Hatcheries (see Aquaculture)
- Hawaii State, USA
- S 3379 (growth, phytoplankton)
- Hecate Strait (see Northeast Pacific Ocean)
- Helminths (worms)
- S 3502 (parasites, pollock, Scotian Shelf)
- TS 5112 (parasites, Baltic seal, Ladoga seal, grey seal, Baltic Sea, L. Ladoga, USSR)
- 5133 (parasites, check lists, Dolly Varden, spotted char, E USSR)
- Henneguya* (see Myxosporidia)
- Herring, Atlantic (*Clupea harengus harengus*)
- J 42 : 880 (geographical distribution, oceanographic features, Gulf of Maine, NW Atl., Scotian Shelf)
- : 888 (stock assessment, evaluation, NW Atl.)
- : 989 (catchability, fishing grounds, NW Atl.)
- : 1439 (food consumption, otoliths, harbor seal)
- : 1957 (parasites, indicator species, NW Atl.)
- (S1) : 39 (spawning grounds, spawning behavior, N Atl.)
- : 91 (environmental effects, tides, larvae, St. Lawrence R. estuary)
- : 105 (models, bioenergetics)
- : 158 (population dynamics, environmental effects, Gulf of Maine, NW Atl.)
- : 192 (recruitment, fishery management, North Sea)

- : 207 (stock assessment, fishery management, NE Atl.) 162 (catch statistics, roe, B.C.)  
 : 245 (mathematical models, fishery management) 163 (catch statistics, roe, B.C.)  
 : 263 (population dynamics, fishery management, Fortune Bay, Nfld.) 165 (roe surveys, stock assessment, B.C.)  
 : 266 (roe surveys, stock assessment, B.C.)
- Herring, Baltic (*Clupea harengus membras*)  
 J 42(S1) : 83 (environmental effects, spawning, Baltic Sea)
- Herring, blueback (*Alosa aestivalis*)  
 J 42 : 1928 (gear selectivity, fishing nets, juveniles, Saint John R., N.B.)
- Herring, lake (*Coregonus artedii*) (cisco)  
 J 42 : 1178 (vertical distribution, prediction, WI)  
 : 1522 (environmental effects, swimming)
- Herring, Pacific (*Clupea harengus pallasii*)  
 (Clupea pallasii)  
 J 42 : 1255 (equipment, egg counters)  
 : 1806 (biological sampling, fish eggs, Strait of Georgia, NE Pac.)  
 (S1) : 39 (spawning grounds, spawning behavior, N Pac.)  
 : 56 (environmental effects, reproductive cycle, B.C.)  
 : 111 (reproduction, B.C.)  
 : 127 (reproduction, survival, B.C.)  
 : 138 (growth, environmental effects, Strait of Georgia, NE Pac.)  
 : 174 (recruitment, environmental effects, Strait of Georgia, NE Pac.)  
 : 181 (production, exploitation, E Bering Sea)  
 : 222 (fisheries, culture techniques, Japan)  
 : 230 (fishery management, NE Pac.)  
 : 258 (evaluation, fishery management, B.C.)
- TF 1329 (impoundment, roe fisheries, N Gulf Is., B.C.)  
 1333 (distribution, abundance, W Vancouver I., B.C.)  
 1365 (stock assessment, potential resources, B.C.)  
 1372 (harvesting, roe, Queen Charlotte Is., B.C.)  
 MF 1795 (fishery surveys, roe fisheries, B.C.)  
 1798 (stock assessment, fish eggs, Barkley Sound, B.C.)  
 1837 (roe surveys, stock assessment, W Vancouver I., B.C.)  
 DF 485 (catch/effort, population structure, Tuktoyaktuk Harbour, Liverpool Bay, N.W.T.)  
 493 (tag recoveries, B.C.)  
 502 (population structure, biological sampling, B.C.)  
 IF 154 (tagging, B.C.)  
 161 (catch statistics, roe, B.C.)
- Hetersomata (flatfishes)  
 TF 1392 (parasitism, *Pseudoterranova decipiens*, *Anisakis simplex*, *Contracaecum osculatum*, E Canada)  
 DF 486 (fishery surveys, flatfishes, Hecate Strait, NE Pac.)
- Hexagenia* spp. (see Ephemeroptera)
- Hippoglossoides platessoides* (see Plaice, American)
- Hippoglossus stenolepis* (see Halibut, Pacific)
- Historical account  
 J 42 : 494 (geology, climate, freshwater lakes, Saquaqujuac, Hudson Bay)  
 SP 76 (fisheries, Atlantic salmon, Nfld., Labrador)  
 80 (Atlantic salmon, North America)  
 MF 1786 (native fisheries, B.C.)  
 1819 (fishery statistics, Pacific salmon, N Pac.)  
 S 3501 (commercial fishing, Arctic char, N Labrador)  
 3562 (research programs, Atlantic salmon, Arctic char, Nfld.)
- Histriobdella* (see Polychaeta)
- Homarus americanus* (see Lobster, American)
- Hudson Bay, Canada  
 J 42 : 494 (geology, climate, freshwater lakes, Saquaqujuac)  
 : 506 (water circulation, freshwater lakes, Saquaqujuac)  
 : 521 (oxygen consumption, photosynthesis, freshwater lakes, Saquaqujuac)  
 : 999 (tidal mixing, light intensity, algae, Manitounuk Sound)  
 DF 494 (sea ice, phytoplankton, zooplankton, SE Hudson Bay)
- Huron, Lake, America  
 J 42 : 1608 (recruitment, temperature effects, alewife, South Bay)
- I
- Illex illecebrosus* (see Squid, short-finned)
- Information services  
 SP 79 (fishing rights, directories, E Canada)  
 TF 1293 (bibliographies, marine ecology, Strait of Georgia, NE Pac.)  
 1315F (marine aquaculture, Que.)

- 1339 (environmental impact, tidal power, Bay of Fundy, NW Atl.)
- 1345 (bibliographies, Arctic char, Dolly Varden, spotted char, World Waters)
- 1355 (manuals, surveillance and enforcement, Nfld.)
- 1361 (bibliographies, human resources, marine mammals, Arctic)
- 1384 (computer programs, experimental research)
- MF 1431R (check lists, invertebrates, fishes, algae, Northumberland Strait, Gulf of St. Lawrence)
- 1790 (documents, fishery institutions, St. John's, Nfld.)
- 1808 (data collections, information retrieval, salmonids, B.C.)
- 1823F (annotated bibliographies, kelt, Atlantic salmon)
- 1827F (literature reviews, kelt, Atlantic salmon)
- 1828 (bibliographies, white sturgeon)
- DF 482 (check lists, phytoplankton, Frobisher Bay, Arctic)
- 484 (check lists, zooplankton, Experimental Lakes Area, NW Ont.)
- 496 (aquaculture techniques, Pacific salmon, steelhead trout, B.C.)
- 514 (check lists, zoobenthos, Experimental Ponds Area, Nfld.)
- 516 (check lists, biological sampling, zooplankton, Campbell R. estuary, Vancouver I., B.C.)
- 518 (catalogues, spawning escapement, salmonids, Fraser R. watershed, B.C.)
- 521 (catalogues, spawning escapement, salmonids, Chilliwack-Hope region, B.C.)
- 540 (economics, fishing communities, Scotia-Fundy Region, NW Atl.)
- TH 44 (catalogue, taxonomy, Oligochaeta, World Inland Waters)
- DH 32(1) (catalogue, marine dredging, Beaufort Sea)
- (2) (catalogue, oil and gas explorations, Beaufort Sea)
- 37(1) (inventories, physical oceanographic data, B.C.)
- S 3426 (biological production, plankton, World Oceans)
- 3457 (check lists, parasites, redfishes, NW Atl.)
- 3568 (check lists, taxonomy, Gammaridea, Bay of Fundy, NW Atl.)
- TS 5138 (check lists, phytoplankton, Arctic Basin, USSR)
- 5155 (check lists, aquatic oligochaetes, S Karelia, NW USSR)
- 5168 (taxonomy, manuals, redfishes, N Atl.)
- 5185 (parasites, check lists, myxosporidians, marine fishes, Norway)
- Introduced species
- TF 1370 (surveys, brook trout, South Duck
- R., Cowan Creek, Man.)
- TS 5165 (predation, starfish, Japanese scallop, Vityaz Bay, Japan Sea)
- Invertebrata (see also names of organisms)
- J 42 : 139 (feeding behavior, detritus, Carnation Creek, B.C.)
- : 210 (drift sampling, methodology, Cement Creek, CO)
- : 669 (pollution effects, acidification, Chippewa County, MI)
- : 909 (models, biological drift, aquatic organisms)
- : 1038 (ecosystems, rivers, aquatic organisms)
- : 1045 (ecosystems, rivers, aquatic organisms)
- : 1296 (biological production, Sand R., Alta.)
- : 1465 (heavy metals, bioturbation, Ont.)
- : 1570 (samplers, epiphytes)
- : 1676 (metabolism, acidification, benthos)
- : 1827 (lipids, seasonal variations, macroinvertebrates, L. Michigan)
- : 1922 (stream flow, biological drift)
- TF 1287 (pollution effects, mining, Minto Creek, Y.T.)
- 1391 (behavior studies, methodology)
- MF 1431R (check lists, Northumberland Strait, Gulf of St. Lawrence)
- 1799 (pulp wastes, feeding behavior, fishes, Somass R. estuary, Vancouver I., B.C.)
- 1829 (biological surveys, Campbell R. estuary, Vancouver I., B.C.)
- 1830 (pollution effects, hatchery effluents, B.C.)
- S 3401 (bioaccumulation, polychlorinated dioxins, aquatic insects)
- 3485 (petroleum, Arctic)
- 3517 (lakes, salmonids, Matane R., Que.)
- Isonychia* (see Ephemeroptera)
- J
- James Bay, Canada
- J 42 : 1216 (river discharge, hydroelectric power plants, phytoplankton, Eastmain R.)
- Japan
- J 42 : 1171 (organic nitrogen, atmospheric precipitation, phytoplankton, L. Biwa)
- (S1) : 222 (fisheries, culture techniques, Pacific herring)
- TS 5139 (processing fishery products, freezing storage)
- 5159 (diseases, hatcheries, salmonids, Hiroshima Prefecture)
- 5160 (parasites, nervous tissue, myxosporidians, salmonids, Hiroshima Prefecture)

- 5161 (parasites, nervous tissue, myxosporidians, salmonids, Hiroshima Prefecture)
- 5167 (quality control, canned products, Pacific sardine, masou salmon)
- 5174 (mesh selectivity, gillnets, pomfret)
- 5180 (morphology, taxonomy, *Entosphenus tridentatus*, *Lampetra japonica japonica*, *L. japonica kessleri*, *L. russneri*, Hokkaido)
- 5188 (aquaculture effluents, food composition)
- 5189 (dissolved oxygen, fish stocking density)
- 5190 (dissolved oxygen, fish culture effluents)
- Japan Sea
- TS 5153 (chemoreception, chemical stimuli, starfish)
- 5165 (introduced species, predation, starfish, Japanese scallop, Vityaz Bay)
- Jones Sound (see Arctic)
- Juveniles (see names of species)
- K
- Kelp (see Algae)
- Killifish, banded (*Fundulus diaphanus*)
- S 3332 (new records, Nfld.)
- L
- Labrador, Nfld.
- SP 76 (historical account, fisheries, Atlantic salmon)
- DF 477 (fishways, counting fences, Atlantic salmon)
- 478 (commercial catch statistics, Atlantic salmon)
- S 3329 (stock identification, meristic counts, Arctic char)
- 3339 (exploitation, management, Atlantic cod)
- 3360 (tagging, stock identification, Atlantic cod)
- 3454 (life history, Arctic char, Fraser R.)
- 3500 (stock identification, Arctic char)
- 3501 (historical account, commercial fishing, Arctic char, N Labrador)
- 3563 (fishery surveys, cost analysis, Atlantic salmon, Kanairiktok R.)
- Labrador Sea
- S 3545 (nutrients, alkalinity)
- Laminaria* (see Algae)
- Lampetra* spp. (see Cyclostomata)
- Lamprey, sea (*Petromyzon marinus*)
- J 42 : 776 (stock discrimination, population genetics, North America, British Isles)
- Lampris regius* (see Opa) (*Lampris guttatus*)
- Leech, salmon (*Piscicola salmositica*)
- J 42 : 1986 (parasite control, chlorine, coho salmon)
- Lepeophtheirus salmonis* (see Louse, salmon)
- Lepomis gibbosus* (see Pumpkinseed)
- Lessonia* (see Algae)
- Leuroglossus schmidtii* (see Smoothtongue, northern)
- Lily, yellow water (*Nuphar variegatum*)
- J 42 : 23 (heavy metals, bioaccumulation, lakes, Que.)
- Lingcod (*Ophiodon elongatus*)
- MF 1791 (tagging, Strait of Georgia, NE Pac.)
- 1833 (sport fishing, catch/effort, Strait of Georgia, NE Pac.)
- DF 461 (population structure, biological sampling, W Vancouver I., B.C.)
- Lithodes aequispina* (see Crab, golden king)
- Loach (*Misgurnus fossilis*)
- TS 5175 (roes, embryonic development)
- Lobster, American (*Homarus americanus*)
- J 42 : 194 (light effects, spawning)
- : 229 (tagging, movements, SW N.S.)
- : 342 (parasites, morphology, *Pseudocarcinonemertes homari*, Bay of Fundy, NW Atl.)
- : 351 (parasites, life cycle, *Pseudocarcinonemertes homari*)
- : 357 (serological studies, alimentary organs, *Pseudocarcinonemertes homari*)
- : 360 (geographical distribution, seasonal variations, *Pseudocarcinonemertes homari*, Maritime Provinces)
- : 368 (diets, vitamin C, juveniles)
- : 370 (vitamin C, biosynthesis)
- : 1954 (artificial insemination, fecundity)
- : 2061 (interspecific relationships, seaweeds, green sea urchin, N.S.)
- TF 1344 (pollution effects, potash, Bay of Fundy, NW Atl.)
- S 3352 (induced breeding, electric currents)
- 3431 (seed production, lobster culture)
- 3440 (parasites, *Histiobdella homari*, Maritime Provinces)



- 3481 (biochemistry, moulting)  
 3493 (predators, American oyster)  
 3525 (temperature effects, reproduction)  
 3536 (diets, population dynamics)
- Louse, salmon (*Lepeophtheirus salmonis*)  
 (*Binoculus salmoneus*)  
 S 3436 (parasites, terminology)
- Lumbriculus ambiguus* (Oligochaeta)  
 TH 44 (taxonomy, new species, World  
 Inland Waters)
- M
- Mackerel, Atlantic (*Scomber scombrus*)  
 J 42 : 577 (population dynamics, juveniles,  
 S Gulf of St. Lawrence)
- Mackerel, horse (*Caranx trachurus*) (*Trachurus  
 trachurus*)  
 TS 5120 (parasites, juveniles, jellyfish)  
 5121 (morphology, taxonomy)
- Mackerel, Pacific (*Scomber japonicus*)  
 J 42 : 602 (El Niño phenomenon, survival,  
 California Current, NE Pac.)  
 TF 1394 (abundance, food, Vancouver I.,  
 B.C.)
- Macrobrachium rosenbergii* (see Prawn, freshwater)
- Maine, Gulf of (see Northwest Atlantic Ocean)
- Mallotus villosus* (see Capelin)
- Mammalia (see also names of species)  
 J 42 : 873 (population dynamics,  
 mathematical models, juveniles,  
 seals)  
 TF 1361 (bibliographies, Arctic)  
 IF 156 (fishing gear, damage, marine  
 mammals, off N.S.)  
 S 3451 (physiology, bioenergetics)  
 TS 5123 (behavior, sound production, seals)
- Manitoba (Province), Canada  
 J 42 : 268 (bubble disease, gas  
 supersaturation, rainbow trout)  
 TF 1370 (surveys, introduced species, brook  
 trout, South Duck R., Cowan Creek)  
 S 3362 (emergence, caddisflies, South Duck  
 R., Cowan Creek)  
 3389 (biogeography, distribution,  
 mayflies)  
 3391 (production, *Hexagenia limbata*,  
*H. rigida*, L. Winnipeg)  
 3504 (pollution effects, pesticides,  
 walleye)
- Maritime Provinces (see also New Brunswick, Nova  
 Scotia, Prince Edward Island)  
 J 42 : 292 (acidification, eggs, juveniles,  
 Atlantic salmon)  
 : 360 (geographical distribution,  
 seasonal variations,
- Pseudocarcinonemertes homari*,  
 American lobster)  
 DF 481 (catch statistics, sport fishing,  
 Atlantic salmon)  
 IF 149 (fishery products, marketing)  
 S 3440 (parasites, *Histriobdella homari*,  
 American lobster)
- Mauritania  
 J 42 : 1969 (physical oceanography,  
 upwelling, Cap Blanc)
- Mayflies (see Ephemeroptera)
- Mediterranean Sea  
 S 3419 (primary production)
- Meganyctiphanes* (see Crustacea)
- Melanitta* spp. (see Scoters)
- Melanogrammus aeglefinus* (see Haddock)
- Menhaden, Atlantic (*Brevoortia tyrannus*)  
 J 42 : 982 (fishing effort, fishery  
 management)  
 : 1371 (mathematical models, fishery  
 management)  
 (SI) : 147 (analytical models, population  
 dynamics, NW Atl.)
- Merganser, common (*Mergus merganser*)  
 J 42 : 1259 (population number, food  
 availability, Vancouver I., B.C.)
- Mergus merganser* (see Merganser, common)
- Merluccius productus* (see Hake, Pacific)
- Mesidotea* spp. (see Crustacea)
- Meteorology  
 DF 462 (observations, fish farming,  
 Pacific salmon, Nanaimo,  
 Vancouver I., B.C.)  
 480 (hydrology, climatology,  
 Experimental Lakes Area, NW Ont.)  
 TH 40 (current meter observations,  
 meteorological observations, off  
 Cape Sable, N.S.)  
 CH 19 (floods, storm surge prediction,  
 Tuktoyaktuk, Beaufort Sea)
- Methodology and Techniques  
 J 42 : 38 (chemical extraction,  
 chlorophylls)  
 : 210 (drift sampling, invertebrates,  
 Cement Creek, CO)  
 : 380 (strontium, statolith, short-  
 finned squid)  
 : 595 (sediment transport, intertidal  
 flat)  
 : 744 (equipment, culture,  
 phytoplankton)  
 : 809 (sedimentation, dating  
 techniques, Toolik L., AK)



- : 825 (stream flow, evaluation)  
 : 836 (population dynamics, evaluation, fishes)  
 : 888 (stock assessment, Atlantic herring, NW Atl.)  
 : 1127 (chromatographic techniques, solvent extraction, phytoplankton)  
 : 1255 (equipment, egg counters, Pacific herring)  
 : 1391 (pollution monitoring, aquatic environment)  
 : 1570 (samplers, epiphytes, invertebrates)  
 : 1572 (analytical techniques, stock identification, Labrador redfish, deepwater redfish)  
 : 1823 (chemotaxonomy, fish eggs, Atlantic cod, haddock)  
 : 1835 (visual census, diving, northern pike, Roi L., Alta.)  
 : 1860 (biological sampling, biomass, aquatic plants, L. Memphremagog, Que.)
- SP 78 (analytical techniques, radiochemical analysis)  
 83 (remote sensor, evaluation)  
 TF 1330 (equipment, incubation, chum salmon, B.C.)  
 1332 (pneumatic sampler, evaluation, benthos)  
 1341 (primary production, measurement)  
 1378 (echo integrators, fishery management)  
 1391 (behavior studies, invertebrates)  
 S 3355 (acidification, biodegradation)  
 3403 (recirculating systems, fish culture, rainbow trout)  
 3473 (oceanographic equipment, biological surveys, off S N.S.)  
 3483 (radar, sea ice, Arctic)  
 3488 (seawater filtration, trace metals)  
 TS 5117 (disease detection, *Myxosoma cerebralis*, rainbow trout)  
 5163 (fish handling, trash fish, Denmark)
- Mexico  
 TS 5171 (taxonomy, biological data, *Lampetra spadicea*, *Tetrapleurodon geminis*, *T. spadiceus*, Jacona)
- Michigan, Lake, USA  
 J 42 : 449 (prey-predator relationship, mathematical models, alewife, lake trout)  
 : 1154 (interspecific relationships, forage fish)  
 : 1827 (lipids, seasonal variations, macroinvertebrates)
- Michigan State, USA  
 J 42 : 669 (pollution effects, acidification, invertebrates, Chippewa County)
- Microspora  
 S 3356 (parasites, taxonomy, *Pleistophora hippoglossoides*, American plaice, NW Atl.)
- Microsporidia  
 TS 5143 (parasites, identification keys)
- Migrations and Tagging  
 J 42 : 229 (American lobster, SW N.S.)  
 : 488 (tagging, biotelemetry, rainbow trout, white perch)  
 : 593 (migrations, water temperature, smolts, Atlantic salmon, Imsa R., Norway)  
 : 693 (spawning grounds, spawning seasons, chinook salmon, Kenai R., AK)  
 : 919 (females, Dungeness crab, N CA)  
 : 1513 (migrations, water temperature, Atlantic salmon, Dee R., Scotland)  
 TF 1291 (tagging, stock assessment, harbor porpoise, Bay of Fundy, Gulf of Maine, NW Atl.)  
 1336 (migratory behavior, feeding, broad whitefish, lake whitefish, least cisco, Tuktoyaktuk Peninsula, N.W.T.)  
 1349 (sockeye salmon, chum salmon, Fraser R., B.C.)  
 1352 (geographical distribution, stock assessment, chinook salmon, Yukon R. basin, B.C., Y.T.)  
 1367 (sockeye salmon, Alberni Inlet, Vancouver I., B.C.)  
 MF 1776 (spawning migrations, fishways, Atlantic salmon, alewife, Magaguadavic R., N.B.)  
 1791 (lingcod, Strait of Georgia, NE Pac.)  
 1815 (tagging, juveniles, coho salmon, Pitt R., B.C.)  
 1820 (spawning populations, lake whitefish, Little Buffalo R., N.W.T.)  
 DF 463 (tagging, body size, chinook salmon, Campbell R., Vancouver I., B.C.)  
 477 (fishways, counting fences, Atlantic salmon, Labrador, Nfld.)  
 493 (tag recoveries, Pacific herring, B.C.)  
 515 (spiny dogfish, B.C.)  
 527 (tagging, population structure, salmonids, Discovery Passage, Campbell R. estuary, Vancouver I., B.C.)  
 IF 154 (Pacific herring, B.C.)  
 S 3326 (cultured stocks, homing behavior, Atlantic salmon, N.B.)  
 3360 (stock identification, Atlantic cod, Nfld., Labrador)  
 3442 (bacterial diseases, migrations, American eel, St. Lawrence R. estuary)  
 3453 (environmental factors, fishery management)  
 3522 (physiological changes, spawning migration, pink salmon)

- 3523 (physiological changes, spawning migration, pink salmon)
- TS 5136 (migrations, fry, pink salmon, Iwaobetsu R., USSR)
- 5140 (Alaska pollack, Bering Sea, Kamchatka, USSR)
- Minnow, fathead (*Pimephales promelas*)
- S 3551 (chlorine compounds)
- Misgurnus fossilis* (see Loach)
- Mississippi River, America
- J 42 : 737 (stock discrimination, biological development, Mississippi R. drainage)
- Models
- J 42 : 33 (growth, biomass, *Laminaria longicruris*, Chaleur Bay, Que.)
- : 44 (fishery management)
- : 57 (bioenergetics, stocking, northern pike, muskellunge, tiger muskellunge)
- : 150 (stock assessment, search effectiveness, Pacific ocean perch, B.C.)
- : 414 (catch/effort, fishes)
- : 449 (pre-predator relationship, alewife, lake trout, L. Michigan, USA)
- : 459 (population dynamics, time series, coho salmon, Columbia R., WA, OR, CA)
- : 468 (biological production, age, harp seal)
- : 864 (primary production, phytoplankton)
- : 873 (population dynamics, juveniles, seals)
- : 909 (biological drift, evaluation, aquatic organisms)
- : 927 (sulphur, acidification, Harp L. catchment, Ont.)
- : 947 (temperature effects, survival, fishes)
- : 952 (bioeconomic, fishery management)
- : 1066 (catch/effort, stock assessment, fishes)
- : 1371 (fishery management, Atlantic menhaden)
- : 1423 (statistical, catch/effort, Pacific halibut)
- : 1766 (equilibrium yields, Pacific halibut)
- : 2059 (growth, fishery management, fishes)
- (S1) : 105 (bioenergetics, Atlantic herring)
- : 147 (population dynamics, Atlantic menhaden, NW Atl.)
- : 245 (stock assessment, fishery management, Atlantic herring)
- TF 1308 (computer programs, algorithms)
- TH 28 (water currents, Grand Banks, NW Atl.)
- 57 (water motion)
- CH 10 (shallow-water waves)
- S 3408 (investments, fishery management)
- 3423 (tidal currents, topographic effects)
- 3428 (fishery management, American lobster, Bay of Fundy, NW Atl.)
- 3437 (bioeconomic, fisheries investments)
- 3456 (cycles, phytoplankton)
- 3470 (phosphorus, primary production, plankton, SE Pac.)
- 3541 (sea ice drift)
- 3542 (wind effects, continental shelves)
- Mollusca (see also names of species)
- TF 1331 (predation, scoters, Strait of Georgia, NE Pac.)
- MF 1774 (stock assessment, resource management, shellfish, B.C.)
- 1779 (parasites, *Briarosaccus callosus*, golden king crab, Portland Inlet, N B.C.)
- TS 5150 (taxonomy, organism morphology, *Petrasma atacama*, *Acharax eremita*, *Nucinella* spp.)
- 5170 (protective behavior, embryos, marine molluscs)
- 5179 (larvae, Pontevedra estuary, NW Spain)
- Monodon monoceros* (see Narwhal)
- Morone americana* (see Perch, white)
- Morphology and Taxonomy
- J 42 : 342 (parasites, *Pseudocarcinonemertes homari*, American lobster, Bay of Fundy, NW Atl.)
- : 608 (skin, breeding tubercles, Pacific cod, Atlantic cod, Greenland cod)
- : 1580 (morphology, stock identification, Atlantic cod)
- : 1672 (analytical techniques, stock identification, Labrador redfish, deepwater redfish)
- : 1823 (chemotaxonomy, fish eggs, Atlantic cod, haddock)
- : 2020 (stock identification, coho salmon, B.C.)
- (S1) : 3 (*Clupeoidei*, World Waters)
- TF 1319 (developmental stages, larvae, muskellunge, Stony Lake, Ont.)
- 1322 (identification keys, larvae, Brachyura, Scotian Shelf, Bay of Fundy, NW Atl.)
- 1360 (scales, body regions, pink salmon)
- TH 44 (catalogues, oligochaetes, World Inland Waters)
- S 3345 (parasites, *Trichodina truttae*, Pacific salmon, steelhead trout, B.C.)
- 3356 (taxonomy, parasites, *Pleistophora hippoglossoides*, American plaice, NW Atl.)
- 3388 (fish parasites, *Caligus secarius*

- n.sp., Gulf of Aqaba, Egypt)  
 3397 (age composition, morphology, chum salmon, S B.C.)  
 3412 (*Oschia dorsenna* n.gen., n.sp.,  
*Saetheria hirta* n.sp.)  
 3413 (*Gymnometriocnemus* spp.,  
*Raphidocladus* n.subgen.,  
*Sublettiella* n.gen.)  
 3414 (developmental stages,  
*Antillocladius pluspilalus*)  
 3553 (redfishes, NW Atl.)  
 3561 (enzymes, pink salmon, S B.C.,  
 Puget Sound, WA)  
 3568 (taxonomy, check lists, Gammaridae,  
 Bay of Fundy, NW Atl.)  
 TS 5118 (exoskeleton, *Oikopleura dioica*,  
*Botryllus schlosseri*)  
 5121 (golden banded goatfish, horse  
 mackerel, opah, marine gar)  
 5132 (exoskeleton, biological  
 development, *Oikopleura dioica*)  
 5134 (taxonomy, ovaries, salmonids,  
 coregonids)  
 5150 (*Petrasma atacama*, *Acharax eremita*,  
*Nucinella* spp.)  
 5151 (new species, *Peloscolex discolor*,  
*P. bekmani*, *P. paradoxus*, L. Baikal,  
 USSR)  
 5168 (taxonomy, manuals, redfishes, N  
 Atl.)  
 5171 (taxonomy, biological data, *Lampetra*  
*spadicea*, *Tetrapleurodon geminis*, *T.*  
*spadiceus*, Jacona, Mexico)  
 5179 (molluscan larvae, Pontevedra  
 estuary, NW Spain)  
 5180 (*Entosphenus tridentatus*, *Lampetra*  
*japonica japonica*, *L. japonica*  
*kessleri*, *L. reissneri*, Hokkaido,  
 Japan)  
 5192 (narwhal, Baffin I., N.W.T.)  
*Mullus dubius* (see Goatfish, golden banded)  
 Muskellunge (*Esox masquinongy*)  
 J 42 : 57 (bioenergetics model, stocking,  
 northern pike, tiger muskellunge)  
 TF 1319 (developmental stages, morphology,  
 larvae, Stony L., Ont.)  
 Muskellunge, tiger (*Esox lucius* X *E. masquinongy*)  
 J 42 : 57 (bioenergetics model, stocking,  
 northern pike, muskellunge)  
 Mussel, blue (*Mytilus edulis*)  
 J 42 : 1158 (tidal effects, suspended  
 particulate matter, St. Lawrence R.  
 estuary)  
 : 1166 (growth, limiting factors, St.  
 Lawrence R. estuary)  
 S 3509 (population genetics, genotypes,  
 larvae)  
 3565 (pollution effects, aromatic  
 hydrocarbons)  
*Mya arenaria* (see Clam, soft-shell)  
*Myriophyllum* (see Aquatic plants)  
*Mytilus edulis* (see Mussel, blue)  
*Myxosoma* (see Diseases and Parasites)  
 Myxosporidia  
 J 42 : 1312 (detection, *Henneguya*  
*salmonicola*, sockeye salmon)  
 TF 1364 (parasites, water pollution  
 treatment, *Ceratomyxa shasta*,  
 chinook salmon, Fraser R., B.C.)  
 S 3474 (new records, *Ceratomyxa shasta*,  
 pink salmon, Fraser R., B.C.)  
 3556 (parasites, juveniles, *Ceratomyxa*  
*shasta*, chinook salmon, Fraser R.,  
 B.C.)  
 TS 5160 (parasites, nervous tissue,  
 salmonids, Hiroshima Prefecture,  
 Japan)  
 5161 (parasites, nervous tissue,  
 salmonids, Hiroshima Prefecture,  
 Japan)  
 5185 (parasites, check lists, marine  
 fishes, Norway)  
 N  
 Narwhal (*Monodon monoceros*)  
 J 42 : 676 (geographical distribution,  
 population number, Arctic)  
 TS 5192 (morphology, Baffin I., N.W.T.)  
 Nekton  
 J 42 : 1535 (avoidance reactions,  
 lighting systems, off N.S.)  
 Nematoda  
 J 42 : 342 (parasites, morphology,  
*Pseudocarcinonemertes homari*,  
 American lobster, Bay of Fundy, NW  
 Atl.)  
 : 351 (parasites, life cycle,  
*Pseudocarcinonemertes homari*,  
 American lobster)  
 : 357 (serological studies,  
 alimentary organs,  
*Pseudocarcinonemertes homari*,  
 American lobster)  
 : 360 (geographical distribution,  
 seasonal variations,  
*Pseudocarcinonemertes homari*,  
 Maritime Provinces)  
 TF 1201F (parasitism, *Phocanema decipiens*,  
*Anisakis* sp., *Contracaecum* sp.,  
 Atlantic cod, American plaice,  
 gray sole, S Gulf of St. Lawrence)  
 1392 (parasites, *Pseudoterranova*  
*decipiens*, *Anisakis simplex*,  
*Contracaecum osculatum*, Atlantic  
 cod, flatfishes, E Canada)  
*Neopanope sayi* (see Crab, mud)  
 Netherlands  
 J 42 : 1342 (interspecific relationships,  
 food availability, bream, European  
 eel, Tjeukemeer L.)

## Nevada State, USA

- J 42 : 1712 (bioenergetics, isotope tracers, fishes, Lahontan L.)

## New Brunswick (Province), Canada

- J 42 : 1928 (gear selectivity, fishing nets, juveniles, alewife, blueback herring, Saint John R.)
- TF 1362 (sportfishing, catch statistics, Atlantic salmon, Restigouche R.)
- MF 1776 (spawning migrations, fishways, Atlantic salmon, alewife, Magaguadavic R.)
- 1805 (tungsten, biota, Mount Pleasant)
- 1812 (surveys, stock assessment, soft-shell clam, Charlotte County)
- 1842 (resource surveys, soft-shell clam, Buckmans Creek, Charlotte County)
- DF 475 (fishways, counters, Atlantic salmon, Saint John R.)
- 489 (chemical limnology, water analysis, rivers)
- TH 43 (environmental monitoring, nuclear power plants, Point Lepreau)
- S 3326 (cultured stocks, homing behavior, Atlantic salmon)
- 3351 (stock assessment, population number, shortnose sturgeon, Saint John R.)
- 3407 (ocean dumping, dredging, benthos, Saint John Harbour)
- 3497 (parasites, trematodes, winter flounder, Passamaquoddy Bay)

## New genera

- S 3412 (taxonomy, *Oschia dorsenna*)
- 3413 (morphology, taxonomy, *Raphidocladus n.subgen.*, *Sublettiella n.gen.*)

## New Hampshire State, USA

- J 42 : 1501 (acidification, lakes, algae)

## New records

- S 3332 (banded killifish, Nfld.)
- 3406 (parasites, *Cryptobia salmositica*, cutthroat trout, Big Qualicum R., Vancouver I., B.C.)
- 3474 (*Ceratomyxa shasta*, pink salmon, Fraser R., B.C.)

## New species

- TH 44 (taxonomy, *Lumbriculus ambiguus*, *L. genitosetosus*, *Stylodrilus sovaliki*, *Varichaetadrilus minutus*, World Inland Waters)
- S 3343 (taxonomy, *Acanthochondria margolisi*, *A. dojirii*, *A. vancouverensis*, B.C.)
- 3388 (taxonomy, morphology, *Caligus sicarius*, Gulf of Aqaba, Egypt)
- 3412 (taxonomy, *Oschia dorsenna*, *Saetheria hirta*)
- TS 5151 (taxonomy, *Peloscolex discolor*, *P. bekmani*, *P. paradoxus*, L. Baikal, USSR)
- 5171 (taxonomy, biological data, *Tetrapleurodon geminis*, *T. spadiceus*,

## Jacona, Mexico)

## New York State, USA

- J 42 : 1707 (acidification, light attenuation, Dart L.)

## New Zealand

- J 42 : 1171 (organic nitrogen, atmospheric precipitation, phytoplankton, L. Taupo)

## Newfoundland (Province), Canada

- J 42 : 539 (growth, smolts, Atlantic salmon, Little Codroy R.)
- : 976 (abundance, feeding behavior, whales, capelin)
- (S1) : 263 (population dynamics, fishery management, Atlantic herring)
- SP 76 (historical account, fisheries, Atlantic salmon)
- TF 1310 (stock assessment, bycatch, Atlantic cod, capelin)
- 1320 (physical limnology, chemical limnology, Experimental Ponds Area)
- 1323 (seasonal variations, population structure, Atlantic salmon, Portugal Cove)
- 1325 (growth, food, threespine stickleback, Experimental Ponds Area)
- 1355 (manuals, surveillance and enforcement)
- 1790 (documents, fishery institutions, St. John's)
- DF 477 (fishways, counting fences, Atlantic salmon)
- 478 (commercial catch statistics, Atlantic salmon)
- 514 (check lists, zoobenthos, Experimental Ponds Area)
- DH 21 (bottom temperature data, coastal area)
- S 3332 (new records, banded killifish)
- 3339 (exploitation, management, Atlantic cod)
- 3360 (tagging, stock identification, Atlantic cod)
- 3375 (bioturbation, sediment analysis, off NE Nfld.)
- 3516 (limnology, population structure, fishes, Holyrood Pond, Avalon Peninsula)
- 3530 (environmental impact, rivers, St. John's)
- 3560 (stock assessment, rivers, salmonids, St. John's)
- 3562 (historical account, research programs, Atlantic salmon, Arctic char)
- TS 5169 (fishery, sociology, harp seal, Twillingate)

## North America

- J 42 : 776 (stock distribution, population genetics, sea lamprey)
- SP 80 (historical account, Atlantic

- salmon)
- North Atlantic Ocean
- J 42(S1) : 39 (spawning grounds, spawning behavior, Atlantic herring)
- DH 16 (wave height)
- S 3370 (population structure, life cycle, whales)
- 3424 (pollution monitoring, mercury)
- TS 5168 (taxonomy, manuals, redfishes)
- North Pacific Ocean
- J 42(S1) : 39 (spawning grounds, spawning behavior, Pacific herring)
- TF 1376 (fishery statistics, biological production, Pacific salmon)
- MF 1819 (fishery statistics, historical account, Pacific salmon)
- S 3342 (age determination, Pacific cod)
- 3384 (geographical distribution, vertical distribution, Pacific cod)
- North Sea
- J 42(S1) : 192 (recruitment, fishery management, Atlantic herring)
- Northeast Atlantic Ocean
- J 42(S1) : 207 (stock assessment, fishery management, Atlantic herring)
- Northeast Pacific Ocean
- J 42 : 602 (El Niño phenomenon, survival, Pacific mackerel, California Current)
- : 1144 (population dynamics, northern smoothtongue, Strait of Georgia)
- : 1806 (biological sampling, fish eggs, Pacific herring, Strait of Georgia)
- (S1) : 138 (growth, maturation, Pacific herring, Strait of Georgia)
- : 174 (recruitment, environmental effects, Pacific herring, Strait of Georgia)
- : 230 (fishery management, Pacific herring)
- TF 1289 (stock assessment, spawning populations, Pacific hake, walleye pollock, Strait of Georgia)
- 1293 (bibliographies, marine ecology, Strait of Georgia)
- 1318 (surveys, bycatch, Pacific halibut, Hecate Strait, Queen Charlotte Sound)
- 1331 (predation, clams, scoters, Strait of Georgia)
- MF 1775 (landing statistics, age composition, Queen Charlotte Sound, Hecate Strait)
- 1791 (tagging, lingcod, Strait of Georgia)
- 1794 (SCUBA diving, biological collections, Strait of Georgia)
- 1809 (environmental impact, marinas, fishes, Strait of Georgia)
- 1811 (monitoring, quota regulation, Pacific hake)
- 1833 (sport fishing, catch/effort, spiny dogfish, rockfishes, lingcod, Strait of Georgia)
- 1840 (catch statistics, trash fish, Queen Charlotte Sound, Hecate Strait)
- DF 486 (surveys, flatfishes, Hecate Strait)
- 488 (surveys, groundfish species, Hecate Strait)
- 491 (surveys, stock assessment, demersal fishes, Hecate Strait)
- 500 (surveys, population structure, Pacific hake, walleye pollock, spiny dogfish, Strait of Georgia)
- 511 (stock assessment, submersibles, rockfishes, Strait of Georgia)
- 517 (age composition, landings, Pacific cod, Strait of Georgia, Strait of Juan de Fuca)
- 525 (surveys, Pacific ocean perch, Queen Charlotte Sound)
- TH 52 (distribution, abundance, marine birds, Hecate Strait, Queen Charlotte Sound)
- DH 31 (hydrographic data, Ocean Station P)
- S 3438 (population genetics, stock identification, pink salmon)
- 3460 (parasites, check lists, fishes)
- 3461 (life history, golden king crab)
- Northern Hemisphere
- J 42(S1) : 21 (racial studies, adaptations, *Clupea* spp.)
- Northwest Atlantic Ocean
- J 42 : 342 (parasites, morphology, *Pseudocarcinonemertes homari*, American lobster, Bay of Fundy)
- : 880 (geographical distribution, oceanographic features, Atlantic herring, Gulf of Maine)
- : 888 (stock assessment, methodology, Atlantic herring)
- : 963 (age, growth, sandbar shark)
- : 989 (catchability, fishing grounds, Atlantic herring)
- : 1452 (growth, otolith reading, redfishes, Flemish Cap)
- (S1) : 147 (analytical models, population dynamics, Atlantic menhaden)
- : 158 (population dynamics, environmental effects, Atlantic herring, Gulf of Maine)
- TF 1291 (tagging, stock assessment, harbor porpoise, Bay of Fundy, Gulf of Maine)
- 1300 (geographical distribution, temporal distribution, demersal fishes, Bay of Fundy)
- 1309 (catch statistics, conversion factors, soft-shell clam, Scotia-Fundy Region)
- 1322 (identification keys, larvae, *Brachyura*, Bay of Fundy)



- 1339 (environmental impact, tidal power, Bay of Fundy)
- 1344 (pollution effects, potash, American lobster, Bay of Fundy)
- 1382 (fishery management, sea scallop, Bay of Fundy, Georges Bank)
- MF 1800 (toxicants, pollutants, marine organisms, Bay of Fundy)
- DF 540 (economics, fishing communities, Scotia-Fundy Region)
- TH 28 (water currents, mathematical models, Grand Banks)
- 29 (oil spills, mathematical models, Georges Bank, Browns Bank)
- 39 (drifting data buoys, tracking, Grand Banks)
- DH 22 (bottom temperature data, Scotia-Fundy Region)
- S 3356 (parasites, taxonomy, *Pleistophora hippoglossoides*, American plaice)
- 3361 (trace metals, sea scallop, Georges Bank, Browns Bank)
- 3373 (hydrocarbons, gas and oil exploration, Grand Bank)
- 3392 (DDT, PCBs, grey seal, harp seal)
- 3428 (models, fishery management, American lobster, Bay of Fundy)
- 3447 (physical oceanography, surface temperature)
- 3450 (primary production, salt marshes, phytoplankton, Bay of Fundy)
- 3457 (check lists, parasites, redfishes)
- 3512 (tidal currents, water circulation, Georges Bank)
- 3513 (feeding behavior, scavengers, *Eurythenes gryllus*, Nares Abyssal Plain)
- 3527 (chemical oceanography, manganese)
- 3528 (physical oceanography, diurnal tides, Bay of Fundy, Gulf of Maine)
- 3553 (morphology, taxonomy, redfishes)
- 3554 (reproductive cycle, redfishes)
- 3555 (distribution, length, juveniles, short-finned squid)
- 3564 (pollution effects, hydrocarbons, marine fishes)
- 3568 (taxonomy, check lists, Gammaridae, Bay of Fundy)
- 519 (structure, fishes, Mosquito L.)
- 531 (catch statistics, population structure, Arctic char, Cambridge Bay, Rankin Inlet)
- 531 (experimental fishing, stock assessment, Arctic char)
- DH 12 (sedimentology, fjords, Baffin I.)
- S 3386 (ice cover, resonance, Tuktoyaktuk Harbour)
- 3396 (vertical mixing, glaciers, South Cape Fjord, Ellesmere I.)
- 3444 (viral diseases, necrosis, Arctic char, Fish Creek)
- 3448 (physiology, biochemistry, *Calanus hyperboreus*, Jones Sound)
- 3483 (light effects, photosynthesis, algae, Resolute Bay)
- TS 5192 (morphology, narwhal, Baffin I.)
- Norway
- J 42 : 14 (length-weight relationships, environmental effects, *Thysanoessa inermis*, *T. raschii*, *Meganyctiphanes norvegica*, N Norway)
- : 593 (migrations, water temperature, smolts, Atlantic salmon, Imsa R.)
- : 1103 (acidification, calcium, L. Hovvatn)
- TS 5113 (transportation, container ships, sprat)
- 5119 (fish rearing, financial viability)
- 5125 (pollution, oil spills, fishes)
- 5126 (fishery resources, oil and gas industry)
- 5127 (fishery resources, oil and gas industry)
- 5130 (financial management, fishery industry plants)
- 5131 (processing fishery products, fish fillets)
- 5184 (fish culture, economic analysis, salmonids)
- 5185 (parasites, check lists, myxosporidians, marine fishes)
- 5191 (harvesting, processing fishery products, Iceland scallop)
- Notostomum cyclostoma* (Hirudinea)
- S 3398 (parasitism, golden king crab, red king crab, tanner crab, fishes, B.C.)
- Nova Scotia (Province), Canada
- J 42 : 229 (tagging movements, American lobster)
- : 250 (stock identification, scales, Atlantic salmon)
- : 256 (sociological aspects, fishermen, SW N.S.)
- : 1535 (avoidance reactions, lighting systems, zooplankton, nekton, off N.S.)
- : 2061 (interspecific relationships, seaweeds, American lobster, green sea urchin)
- TF 1340 (tidal power plants, American shad,
- Northwest Territories (Territory), Canada
- J 42 : 1238 (geographical distribution, vocalization behavior, ringed seal, Barrow Strait)
- TF 1336 (migratory behavior, feeding, broad whitefish, lake whitefish, least cisco, Tuktoyaktuk Peninsula)
- MF 1820 (migrations, spawning populations, lake whitefish, Little Buffalo R.)
- DF 473 (environmental surveys, lakes, Ingraham Trail)
- 485 (catch/effort, population structure, Pacific herring, Tuktoyaktuk Harbour, Liverpool Bay)
- 490 (hunting statistics, Cumberland Sound, Baffin I.)
- 505 (catch composition, population



- MF 1800 (Annapolis R.)  
(toxicants, pollutants, marine organisms)  
1807 (surveys, stock assessment, soft-shell clam, Annapolis Basin)  
DF 489 (chemical limnology, water analysis, rivers)  
IF 156 (fishing gear, damage, marine mammals, off N.S.)  
TH 40 (current meter observations, meteorological observations, off Cape Sable)  
42 (remote sensing, bathymetry, off Liscomb)  
S 3393 (production, food webs, St. Georges Bay)  
3449 (predation, interspecific relationships, green sea urchin, kelp)  
3473 (oceanographic equipment, biological surveys, off S N.S.)  
3510 (magnesium, oxidation, L. Charlotte)  
3567 (blood, acidification, Atlantic salmon, white sucker, alewife)
- Nucinella* (see Mollusca)
- Nuphar variegatum* (see Lily, yellow water)
- O
- Obituary  
J 42 : 1850 (Hachey, H. B., 1901-1985)
- Oceanography and Limnology  
J 42 : 95 (trace metals, sediment-water interface, benthos)  
: 129 (fertilization, population dynamics, lake whitefish, Experimental Lakes Area, NW Ont.)  
: 210 (drift sampling, methodology, invertebrates, Cement Creek, CO)  
: 239 (oxygen depletion, ice-covered lakes, Alta.)  
: 300 (phosphorus, trophic structure, freshwater lakes, algae)  
: 494 (limnological research, Saquaqujuac, Hudson Bay)  
: 506 (water circulation, freshwater lakes, Saquaqujuac, Hudson Bay)  
: 521 (oxygen consumption, photosynthesis, freshwater lakes, Saquaqujuac, Hudson Bay)  
: 595 (sediment transport, organic carbon, intertidal flat)  
: 685 (pH effects, methyl mercury, Experimental Lakes Area, NW Ont.)  
: 797 (chemical, nutrient cycles, phytoplankton, Toolik L., AK)  
: 831 (phosphorus, chlorophylls, phytoplankton, freshwater lakes)  
: 880 (geographical distribution, Atlantic herring, Scotian Shelf, Gulf of Maine, NW Atl.)  
: 909 (models, biological drift, aquatic organisms)
- : 927 (mathematical models, sulphur, Harp L. catchment, Ont.)  
: 1038 (ecosystems, rivers, aquatic organisms)  
: 1045 (ecosystems, rivers, aquatic organisms)  
: 1103 (acidification, calcium, L. Hovvatn, Norway)  
: 1158 (tidal effects, suspended particulate matter, blue mussel, St. Lawrence R. estuary)  
: 1171 (organic nitrogen, atmospheric precipitation, phytoplankton, L. Taupo, New Zealand, L. Biwa, Japan)  
: 1222 (nutrients, carcasses, coho salmon, Olympic Peninsula, WA)  
: 1303 (nutrient cycles, sediment analysis, *Myriophyllum spicatum*, L. Memphremagog, Que.)  
: 1352 (biological drift, tidal effects, rainbow smelt, St. Lawrence R. estuary, Ouelle R., Que.)  
: 1401 (sediment analysis, Bay of Quinte, L. Ontario)  
: 1493 (oxygen consumption, hypolimnion, lakes, Ont.)  
: 1556 (organic matter, winter, Gulf of St. Lawrence)  
: 1634 (oxygen consumption, seasons, Jack L., Ont.)  
: 1707 (acidification, light attenuation, Dart L., NY)  
: 1712 (bioenergetics, isotope tracers, fishes, Lahontan L., NV)  
: 1789 (melt water, mixing, Arctic lakes)  
: 1860 (biological sampling, biomass, aquatic plants, L. Memphremagog, Que.)  
: 1922 (stream flow, biological drift, invertebrates)  
: 1969 (physical oceanography, upwelling, Cap Blanc, Mauritania)  
: 1979 (ion transport, runoff, Telford watershed, Ont.)  
B 213 (biological oceanography, ecosystem theory)  
TF 1293 (bibliographies, marine ecology, Strait of Georgia, NE Pac.)  
1320 (physical limnology, chemical limnology, Experimental Ponds Area, Nfld.)  
1324 (evaluation, fertilization, sockeye salmon, lakes, B.C.)  
1350 (remote sensing, Beaufort Sea)  
1371 (computer programs, oceanographic data acquisition)  
1388 (water analysis, pH, salmonids, B.C., Y.T.)  
1389 (water analysis, pH, salmonids, Hat Creek area, B.C.)  
MF 1773 (physical oceanography, continental shelf, W Vancouver I., B.C.)  
1829 (biological surveys, aquatic plants, invertebrates, fishes, Campbell R.

- |        |   |        |  |
|--------|---|--------|--|
| DF 473 | estuary, Vancouver I., B.C.)  | CH 10  | (shallow-water waves, mathematical models)                             |
|        | (environmental surveys, lakes, Inghram Trail, N.W.T.)                           | 12     | (wave data analysis, Beaufort Sea)                                     |
| 480    | (hydrology, climatology, Experimental Lakes Area, NW Ont.)                      | 19     | (floods, storm surge prediction, Tuktoyaktuk, Beaufort Sea)            |
| 487    | (chemical limnology, water analysis, Experimental Lakes Area, NW Ont.)          | S 3346 | (water mixing, photosynthesis, marine environment)                     |
| 489    | (chemical limnology, water analysis, rivers, N.B., N.S.)                        | 3366   | (limnology, trophodynamic cycle, E Africa)                             |
| 492    | (water analysis, sediment analysis, Fraser R., B.C.)                            | 3374   | (trace metals, sediment analysis, Baffin Bay, Arctic)                  |
| 509    | (acidification, water chemistry data, Experimental Lakes Area, NW Ont.)         | 3375   | (bioturbation, sediment analysis, off NE Nfld.)                        |
| 514    | (check lists, zoobenthos, Experimental Ponds Area, Nfld.)                       | 3377   | (oceanic fronts, chlorophylls, Azores)                                 |
| TH 28  | (water currents, mathematical models, Grand Banks, NW Atl.)                     | 3381   | (chemical oceanography, chromium, St. Lawrence R. estuary)             |
| 38     | (biogeochemical, Saanich Inlet, Vancouver I., B.C.)                             | 3386   | (ice cover, resonance, Tuktoyaktuk Harbour, N.W.T.)                    |
| 39     | (drifting data buoys, tracking, Grand Banks, NW Atl.)                           | 3395   | (air-water exchanges, carbon dioxide)                                  |
| 40     | (current meter observations, meteorological observations, off Cape Sable, N.S.) | 3396   | (vertical mixing, glaciers, South Cape Fjord, Ellesmere I., N.W.T.)    |
| 42     | (remote sensing, bathymetry, off Liscomb, N.S.)                                 | 3416   | (sediments, grain size)  |
| 46     | (current meter observations, tide gauges, Strait of Belle Isle, NW Atl.)        | 3417   | (metabolism, sediments, marsh grass)                                   |
| 47     | (acoustic tracking systems, evaluation)   | 3423   | (tidal currents, topographic effects)                                  |
| 57     | (water motion, mathematical models)   | 3447   | (physical, surface temperature, NW Atl.)                               |
| DH 1   | (oceanographic data, undulators, Scotian Shelf)                                 | 3465   | (physical, tidal resonance, Alice Arm, B.C.)                           |
| 5      | (physical oceanographic data, Canada Basin)                                     | 3473   | (biological surveys, oceanographic equipment, off S N.S.)              |
| 12     | (sedimentology, fjords, Baffin I., N.W.T.)                                      | 3482   | (sediment analysis, particle size)                                     |
| 16     | (wave height, N Atl.)   | 3483   | (radar, sea ice, Arctic)   |
| 21     | (bottom temperature data, coastal area, Nfld.)                                  | 3486   | (biological, energy flow, zooplankton, Frobisher Bay, Arctic)          |
| 22     | (bottom temperature data, Gulf of St. Lawrence, Scotia-Fundy Region, NW Atl.)   | 3490   | (water levels, crustal adjustments, Great Lakes)                       |
| 23(1)  | (water properties, off Vancouver I., B.C.)                                      | 3495   | (physical oceanography, solar radiation)                               |
| (2)    | (water properties, off Vancouver I., B.C.)                                      | 3498   | (oceanographic data collections, management, Canada)                   |
| (3)    | (water properties, off Vancouver I., B.C.)                                      | 3510   | (manganese, oxidation, L. Charlotte, N.S.)                             |
| 25     | (physical oceanographic data, coastal B.C.)                                     | 3512   | (tidal current, water circulation, Georges Bank, NW Atl.)              |
| 26     | (oceanographic data, coastal waters, SW Vancouver I., B.C.)                     | 3516   | (population structure, fishes, Holyrood Pond, Avalon Peninsula, Nfld.) |
| 30     | (oceanographic data, coastal waters, B.C.)                                      | 3527   | (chemical, manganese, NW Atl.)   |
| 31     | (hydrographic data, Ocean Station P, NE Pac.)                                   | 3528   | (physical, diurnal tides, Bay of Fundy, Gulf of Maine, NW Atl.)        |
| 36     | (oceanographic data, coastal waters, B.C.)                                      | 3540   | (physical, Kevin waves)  |
| 37(1)  | (physical oceanographic data, inventories, B.C.)                                | 3541   | (sea ice drift, mathematical models)                                   |
| 40     | (physical oceanography, current meter data, Vancouver I., B.C.)                 | 3542   | (wind effects, mathematical models, continental shelves)               |
| 41     | (temperature, salinity, off B.C.)   | 3543   | (sea ice, chemical properties, Arctic)                                 |
|        |   | 3544   | (thermohaline circulation, convergence zone, Gulf Stream)              |
|        |   | 3545   | (nutrients, alkalinity, Labrador Sea)                                  |
|        |   | 3546   | (wave measurement, wave frequency)                                     |
|        |   | 3547   | (wind speed, wave followers)   |

- 3548 (thermohaline circulation, shelf fronts, Gulf Stream)
- TS 5129 (physical, oceanic fronts)
- 5142 (chemical oceanography, physical oceanography, Arctic Basin)
- 5156 (ecology, geographical distribution, *Potamothenrix hammoniensis*, Europe, USSR)
- Ohio State, USA
- J 42 : 120 (prey-predator relationships, feeding behavior, sauger, Ohio R.)
- : 406 (heavy metals, community composition, chironomids)
- Oikopleura* (see Tunicata)
- Oligochaeta
- TH 44 (catalogue, taxonomy, new species, World Inland Waters)
- TS 5154 (geographical distribution, aquatic oligochaetes, NW USSR)
- 5155 (check lists, aquatic oligochaetes, S Karelia, NW USSR)
- 5156 (ecology, geographical distribution, *Potamothenrix hammoniensis*, Europe, USSR)
- 5157 (pollution effects, eutrophication, Slocene R., Latvia, USSR)
- 5158 (pollution monitoring, indicator species, L. Ladoga, USSR)
- Oncorhynchus gorbuscha* (see Salmon, pink)
- keta* (see Salmon, chum)
- kisutch* (see Salmon, coho)
- masou* (see Salmon, masou)
- nerka* (see Salmon, sockeye)
- spp. (see Salmon (Pacific in general))
- tshawytscha* (see Salmon, chinook)
- Ontario (Province), Canada
- J 32 : 70 (pesticides, enclosures, lakes)
- : 77 (pesticides, enclosures, zooplankton, lakes, S Ont.)
- : 567 (feeding behavior, environmental effects, Cladocera)
- : 754 (ecological succession, fossil diatoms, Bay of Quinte)
- : 927 (mathematical models, sulphur, Harp L. catchment)
- : 1114 (prey selection, plankton feeders, fishes, L. Opinicon)
- : 1132 (toxicity, selenium, zooplankton, Clay L.)
- : 1211 (biological production, comparative analysis, fishes)
- : 1278 (pollution survey data, Niagara R.)
- : 1315 (stock assessment, production, fishes, Turkey Lakes watershed, N Ont.)
- : 1465 (heavy metals, bioturbation, invertebrates)
- : 1493 (oxygen consumption, hypolimnion, lakes)
- : 1544 (aluminum, pH, amphibians)
- : 1634 (oxygen consumption, seasons, Jack L.)
- : 1946 (aluminum, acidification, phytoplankton, Nora L., Plastic L.)
- : 1979 (ion transport, runoff, Telford watershed)
- TF 1319 (developmental stages, morphology, larvae, muskellunge, Stony L.)
- 1374 (vertical distribution, lakes, slimy sculpin, NW Ont.)
- 1377 (abundance, population dynamics, juveniles, fishes, Bay of Quinte)
- Ontario, Lake, America
- J 42 : 1380 (biomass, length-weight relationships, Crustacea, Bay of Quinte)
- : 1401 (sediment analysis, Bay of Quinte)
- S 3390 (toxicity, copper, *Daphnia magna*)
- 3427 (pollution effects, organic compounds, fishes)
- Opah (*Lampris regius*) (*Lampris guttatus*)
- TS 5121 (morphology, taxonomy)
- Ophiodon elongatus* (see Lingcod)
- Orchestoidea (see Crustacea)
- Orconectes virilis* (see Crayfish)
- Oregon State, USA
- J 42 : 459 (population dynamics, mathematical models, coho salmon)
- : 899 (growth, otoliths, juveniles, chinook salmon, Sixes R. estuary)
- Ornithology
- TF 1331 (predation, clams, scoters, Strait of Georgia, NE Pac.)
- TH 52 (distribution, abundance, Hecate Strait, Queen Charlotte Sound, NE Pac.)
- S 3383 (food preferences, forage fish, rhinoceros auklet, B.C.)
- Oschia dorsenna* (Chironomidae)
- S 3412 (taxonomy, new genera, new species)
- Osmerus mordax* (see Smelt, rainbow)
- Oyster, American (*Crassostrea virginica*)
- S 3493 (predation, American lobster, rock crab, mud crab)
- P
- Pacific Ocean
- S 3418 (primary production, dissolved oxygen, N Pac.)
- 3470 (phosphorus, plankton, SE Pac.)
- Pagophilus groenlandicus* (see Seal, harp)
- Paralithodes camtschatica* (see Crab, red king)

- Parophrys vetulus* (see Sole, English)
- PCBs (see Polychlorinated biphenyls; see also Pollution)
- Pecten yessoensis* (see Scallop, Japanese)  
(*Patinopecten yessoensis*)
- Peloscolex bekmani* (Oligochaeta)  
TS 5151 (taxonomy, new species, L. Baikal, USSR)
- Peloscolex discolor* (Oligochaeta)  
TS 5151 (taxonomy, new species, L. Baikal, USSR)
- Peloscolex paradoxus* (Oligochaeta)  
TS 5151 (taxonomy, new species, L. Baikal, USSR)
- Penaeus monodon* (see Prawn, tiger)
- Perca flavescens* (see Perch, yellow)
- Perch, Pacific ocean (*Sebastes alutus*)  
J 42 : 150 (stock assessment, search effectiveness model, B.C.)  
: 982 (fishing effort, fishery management)  
DF 525 (fishery surveys, Queen Charlotte Sound, NE Pac.)  
526 (fishery surveys, fecundity, off B.C.) TF 1334  
1348
- Perch, white (*Morone americana*)  
J 42 : 488 (tagging, behavior) 1380
- Perch, yellow (*Perca flavescens*)  
J 42 : 280 (competition, stocking density, pumpkinseed, L. Memphremagog, Que.)  
: 1178 (vertical distribution, prediction, WI)  
: 1627 (sex hormones, body size) S 3358  
3363  
3369  
3420  
3443
- Petrasma* (see Mollusca)
- Petromyzon marinus* (see Lamprey, sea) 3448
- Phaeodactylum* (see Algae) 3451
- Phoca groenlandica* (see Seal, harp)  
*hispidus* (see Seal, ringed)  
*vitulina* (see Seal, harbor)
- Phocanema* (see Nematoda) 3452
- Phocoena phocoena* (see Porpoise, harbor) 3455
- Physiology and Biochemistry  
J 42 : 216 (regeneration, wounds, bottlenose dolphin)  
: 370 (vitamin C, biosynthesis, American lobster)  
: 384 (light, enzyme activity, *Selenastrum capricornutum*)  
: 437 (biochemical analysis, stock identification, chum salmon, S B.C.)  
529 (physiological changes, smoltification, brook trout, Atlantic salmon, à la Truite R., Matamek R., Que.)  
539 (smolts, growth, juveniles, Atlantic salmon, Little Codroy R., Nfld.)  
619 (buoyancy, current velocity, Atlantic salmon)  
710 (acidification, physiology, rainbow trout)  
1430 (metabolism, fatty acids, *Artemia*, winter flounder)  
1474 (population genetics, stock identification, pink salmon, Puget Sound, WA, S B.C.)  
1627 (sex hormones, body size, yellow perch)  
1676 (metabolism, acidification, benthos)  
1741 (aluminum, pH, *Daphnia magna*)  
1772 (metabolism, liver cells, fishes)  
1827 (lipids, seasonal variations, macroinvertebrates, L. Michigan, USA)  
1994 (osmoregulation, body size, rainbow trout, P.E.I.)  
2053 (ovaries, necrosis, brook trout)  
(immunity, toxicity, fishes)  
(fish diseases, haematology, rainbow trout)  
(steroids, sex reversal, rainbow trout)  
(biochemistry, enzyme activity, grey seal)  
(polysaccharides, human diseases, *Aeromonas hydrophila*)  
(electroanalysis, mortality, American eel, St. Lawrence R. estuary)  
(olfaction, nerves, rainbow trout)  
(metabolic inhibition, light effects, marine plankton)  
(seasonal variations, *Calanus hyperboreus*, Jones Sound, N.W.T.)  
(metabolism, bioenergetics, marine mammals)  
(nutrient deficiency, growth, *Synechococcus linearis*)  
(biochemical analysis, sporangia, *Synchitrium endobioticum*)  
(biochemical phenomena, pollution monitoring, indicator species)  
(biochemical analysis, polysaccharides, *Vibrionaceae*)  
(eggs, growth, chum salmon, coho salmon)  
(biochemical phenomena, moulting, American lobster)  
(enzyme activity, digestion, *Corophium volutator*)  
(endocrinology, induced ovulation, coho salmon)

- 3519 (pH, eggs, steelhead trout)  
 3520 (endocrinology, Indian carp)  
 3521 (endocrinology, reproduction, Pacific salmon)  
 3522 (physiological changes, spawning migration, pink salmon)  
 3523 (physiological changes, spawning migrations, pink salmon)  
 3525 (sex hormones, bioassays, blue tilapia)  
 3549 (temperature effects, enzyme activity, phytoplankton)  
 3566 (fluorescence, chlorophylls, phytoplankton)  
 3567 (blood, acidification, Atlantic salmon, white sucker, alewife, N.S.)  
 TS 5144 (enzyme activity, frozen storage, Atlantic cod)  
 5145 (enzyme activity, frozen storage, skipjack)  
 5146 (enzyme activity, frozen storage, skipjack)  
 5148 (glycoproteins, polysaccharides)  
 5153 (chemoreception, chemical stimuli, starfish, Sea of Japan)  
 5176 (circulatory system, fins, common dolphin)  
 5195 (nutrient requirements, selenium, salmonids)  
 Pike, northern (*Esox lucius*)  
 J 42 : 57 (bioenergetics model, stocking, muskellunge, tiger muskellunge)  
 : 1835 (visual census, diving, Roi L., Alta.)  
*Pimephales promelas* (see Minnow, fathead)  
*Piscicola salmositica* (see Leech, salmon)  
*Placopecten magellanicus* (see Scallop, sea)  
 Plaice, American (*Hippoglossoides platessoides*)  
 TF 1201F (parasites, *Phocanema decipiens*, *Anisakis* sp., *Contracaecum* sp., S Gulf of St. Lawrence)  
 S 3356 (parasites, taxonomy, *Pleistophora hippoglossoides*, NW Atl.)  
 Plankton  
 J 42 : 77 (pesticides, enclosures, zooplankton, S Ont.)  
 : 649 (fertilizers, freshwater lakes, phytoplankton, B.C.)  
 : 744 (equipment, culture, phytoplankton)  
 : 797 (nutrient cycles, phytoplankton, Toolik L., AK)  
 : 831 (phosphorus, chlorophylls, phytoplankton, freshwater lakes)  
 : 864 (primary production, mathematical models, phytoplankton)  
 : 1127 (chromatographic techniques, solvent extraction, phytoplankton)  
 : 1132 (toxicity, selenium, zooplankton, Clay L., Ont.)  
 : 1171 (organic nitrogen, atmospheric precipitation, phytoplankton, L. Taupo, New Zealand, L. Biwa, Japan)  
 : 1216 (river discharge, hydroelectric power plants, phytoplankton, Eastmain R. estuary, James Bay)  
 : 1359 (production, phytoplankton)  
 : 1484 (secondary production, biomass, zooplankton, Scotian Shelf, NW Atl.)  
 : 1535 (avoidance reactions, lighting systems, zooplankton, off N.S.)  
 : 1588 (primary production, salt lakes, phytoplankton, Alta.)  
 : 1749 (pollution effects, acidification, zooplankton)  
 : 1841 (prey-predator relationships, densities, ichthyoplankton, macrozooplankton)  
 : 1940 (biological control, aquaculture techniques, phytoplankton)  
 : 1946 (aluminum, acidification, phytoplankton, Nora L., Plastic L., Ont.)  
 DF 471 (sampling, zooplankton, Campbell R. estuary, Vancouver I., Discovery Passage, B.C.)  
 472 (species composition, acidification, zooplankton, Experimental Lakes Area, NW Ont.)  
 482 (biomass, check lists, phytoplankton, Frobisher Bay, Arctic)  
 484 (check lists, zooplankton, Experimental Lakes Area, NW Ont.)  
 494 (sea ice, phytoplankton, zooplankton, SE Hudson Bay)  
 499 (biological sampling, microbenthos, Campbell R. estuary, Vancouver I., Discovery Passage, B.C.)  
 503 (vertical distribution, abundance, zooplankton, Frobisher Bay, Arctic)  
 516 (biological sampling, zooplankton, Campbell R. estuary, Vancouver I., B.C.)  
 520 (feeding behavior, salmonids, Campbell R. estuary, Vancouver I., B.C.)  
 539 (sediments, phytoplankton, Arctic)  
 S 3394 (photosynthesis, autotrophy, picoplankton, Foxe Basin, E Arctic)  
 3425 (secondary production, energy balance, zooplankton, Baffin Bay, Arctic)  
 3426 (biological production, check lists, World Oceans)  
 3443 (metabolic inhibition, light effects)  
 3450 (production, salt marshes, phytoplankton, Bay of Fundy, NW Atl.)  
 3456 (models, cycles, phytoplankton)  
 3470 (models, phosphorus, SE Pac.)  
 3486 (energy flow, zooplankton,



- 3511 Frobisher Bay, Arctic)  
(feeding behavior, light effects, zooplankton, Jones Sound, Baffin Bay, Arctic)
- 3526 (feeding behavior, food webs)
- 3549 (temperature effects, enzyme activity, phytoplankton)
- 3566 (fluorescence, chlorophylls, phytoplankton)
- TS 5122 (chlorophylls, photosynthesis, phytoplankton)
- 5138 (check lists, phytoplankton, Arctic Basin, USSR)
- Pleistophora* (see *Microspora*)
- Poland  
J 42 : 1211 (biological production, comparative analysis, freshwater fishes, Ont.)
- Pollachius virens* (see *Pollock*)
- Pollack, Alaska (*Theragra chalcogramma*)  
TS 5140 (migrations, tagging, Bering Sea, Kamchatka, USSR)
- Pollock (*Pollachius virens*)  
S 3502 (parasites, helminths, Scotian Shelf)
- Pollock, walleye (*Theragra chalcogramma*)  
TF 1289 (stock assessment, spawning populations, Strait of Georgia, NE Pac.)  
MF 1825 (distribution, stock assessment, Vancouver I., B.C., VA)  
DF 500 (fishery surveys, population structure, Strait of Georgia, NE Pac.)
- Pollution  
J 42 : 23 (heavy metals, bioaccumulation, yellow water lily, lakes, Que.)  
: 70 (pesticides, enclosures, S Ont.)  
: 77 (pesticides, enclosures, zooplankton, S Ont.)  
: 86 (zinc, growth, *Chlamydomonas variabilis*)  
: 292 (acidification, eggs, juveniles, Atlantic salmon, Maritime Provinces)  
: 406 (heavy metals, community composition, chironomids, OH)  
: 430 (oil slicks, light effects, bottlenose dolphin)  
: 455 (insecticides, stock identification, American eel, E Canada)  
: 544 (monitoring, hydrocarbon residues, Gulf of St. Lawrence)  
: 630 (toxicants, gills, fishes)  
: 669 (acidification, invertebrates, Chippewa County, MI)  
: 685 (pH effects, methyl mercury, Experimental Lakes Area, NW Ont.)  
: 710 (acidification, physiology, rainbow trout)
- 724 (nickel, bioaccumulation, *Scenedesmus obliquus*, *Daphnia magna*)
- 768 (acidification, survival, juveniles, Atlantic salmon)
- 1088 (alkalinity, *Isonychia bicolor*)
- 1103 (acidification, calcium, L. Hovvatn, Norway)
- 1249 (sediment, lead, Rocky Mountain National Park, CO)
- 1272 (insecticides, growth, algae, copepods)
- 1278 (surveys, data, Niagara R., Ont.)
- 1391 (monitoring, aquatic environment)
- 1410 (suspended particulate matter, behavioral responses, coho salmon)
- 1501 (acidification, lakes, algae, NH)
- 1544 (aluminum, pH, amphibians, Ont.)
- 1676 (acidification, metabolism, benthos)
- 1681 (chlorine compounds, sociological aspects, Niagara R., Canada, USA)
- 1707 (acidification, light attenuation, Dart L., NY)
- 1749 (acidification, zooplankton)
- 1870 (chemical pollutants, English sole)
- 1881 (abnormalities, fresh water, chironomid larvae)
- 1946 (aluminum, acidification, phytoplankton, Nora L., Plastic L., Ont.)
- 2004 (aluminum, acidification, juveniles, rainbow trout)
- TF 1287 (mining, Arctic grayling, invertebrates, Minto Creek, Y.T.)
- 1343F (acidification, survival, brook trout, Charlevoix, Que.)
- 1344 (potash, American lobster, Bay of Fundy, NW Atl.)
- 1358 (fungicides, mortality, Atlantic salmon)
- 1381 (trophic structure, productivity, Middle Quinsam L., Long L., B.C.)
- 1386 (supersaturation, salmonids, Nechako R., B.C.)
- 1396 (acidification, population dynamics, white sucker, Experimental Lakes Area, NW Ont.)
- MF 1792F (acidification, freshwater lakes, Que.)
- 1799 (pulp wastes, feeding behavior, invertebrates, fishes, Somass R. estuary, Vancouver I., B.C.)
- 1800 (toxicants, marine organisms, off N.S., Bay of Fundy, NW Atl.)
- 1804F (acidification, freshwater lakes, Arctic char, Que.)
- 1805 (tungsten, biota, Mount Pleasant, N.B.)



- 1830 (effects, hatchery effluents, aquatic organisms, B.C.)  
 DF 501 (effects, data processing, salmonids)  
 TH 29 (oil spills, mathematical models, Georges Bank, Browns Bank, NW Atl.)  
 53 (sediment analysis, mercury, Saguenay Fjord, Que.)  
 DH 29 (crude oil, marine organisms, Patricia Bay, Vancouver I., B.C.)  
 S 3328 (bioaccumulation, halogenated aromatics, rainbow trout)  
 3337 (effects, measurement)  
 3340 (oil, World Oceans)  
 3353 (acidification, bacterial sulphate reduction, Experimental Lakes Area, NW Ont.)  
 3361 (trace metals, sea scallop, Georges Bank, Browns Bank, NW Atl.)  
 3367 (acidification, melt water, St. Marguerite R., Que.)  
 3373 (hydrocarbons, gas and oil exploration, Grand Bank, NW Atl.)  
 3392 (DDT, PCBs, grey seal, harp seal, NW Atl.)  
 3401 (bioaccumulation, polychlorinated dioxins, aquatic insects)  
 3404 (acidification, life cycle, crayfish)  
 3405 (herbicides, detection, rainbow trout)  
 3407 (ocean dumping, dredging, benthos, Saint John Harbour, N.B.)  
 3415 (herbicides, sediment)  
 3422 (insecticides, midges, *Chironomus tentans*)  
 3424 (monitoring, mercury, N Atl.)  
 3427 (organic compounds, fishes, L. Ontario)  
 3430 (cadmium, acidity, Atlantic salmon)  
 3432 (petroleum, marine organisms, Arctic)  
 3433 (petroleum, tropical zones)  
 3445 (bioaccumulation, metals, marine organisms)  
 3458 (monitoring, enzymes, indicator species)  
 3459 (effects, crude oil, Atlantic cod)  
 3468 (monitoring, uranium, Experimental Lakes Area, NW Ont.)  
 3469 (acidification, nitrogen compounds, Experimental Lakes Area, NW Ont.)  
 3484 (acidification, Experimental Lakes Area, NW Ont.)  
 3485 (petroleum, invertebrates, Arctic)  
 3504 (pesticides, walleye, Man.)  
 3505 (acidification, behavioral responses, Arctic char)  
 3506 (carbon dioxide, acidification, Arctic char)  
 3508 (insecticides, ponds)  
 3529 (groundwater, legal aspects)  
 3531 (halogen compounds, rainbow trout)  
 3533 (biodegradation, esters, ponds)  
 3538 (humic acids, monitoring)  
 3551 (chlorine compounds, rainbow trout, fathead minnow)  
 3552 (ocean dumping, dredging, benthos, Alberni Inlet, B.C.)  
 3564 (hydrocarbons, marine fishes, NW Atl.)  
 3565 (aromatic hydrocarbons, *Phaeodactylum tricornutum*, blue mussel)  
 3567 (acidification, blood, Atlantic salmon, white sucker, alewife, N.S.)  
 TS 5124 (control, public health)  
 5125 (oil spills, fishes, Norway)  
 5147 (bioaccumulation, cadmium, *Corophium volutator*)  
 5157 (eutrophication, oligochaetes, Slocene R., Latvia, USSR)  
 5158 (indicator species, water quality, oligochaetes, L. Ladoga, USSR)  
 Polychaeta (see also names of species)  
 S 3440 (parasites, *Histiobdella homari*, American lobster, Maritime Provinces)  
 Polychlorinated biphenyls (PCBs) (see also Pollution)  
 S 3489 (PCB replacement)  
 Pomfret (*Brama japonica*)  
 TS 5174 (mesh selectivity, gillnets, Japan)  
 5177 (geographical distribution, stock assessment, N Pac.)  
 Population dynamics  
 J 42 : 129 (fertilization, lake whitefish, Experimental Lakes Area, NW Ont.)  
 : 147 (stock assessment, time series analysis)  
 : 164 (reproductive rate, lake whitefish)  
 : 459 (time series, mathematical models, coho salmon, Columbia R., WA, OR, CA)  
 : 577 (juveniles, Atlantic mackerel, S Gulf of St. Lawrence)  
 : 602 (El Niño phenomenon, survival, Pacific mackerel, California current, NE Pac.)  
 : 718 (stock/recruitment, mixed fisheries)  
 : 836 (mathematical models, evaluation, fishes)  
 : 873 (mathematical models, census, juveniles, seals)  
 : 1144 (northern smoothtongue, Strait of Georgia, NE Pac.)  
 : 1595 (sexual maturity, annual variations, sockeye salmon, B.C.)  
 : 1608 (recruitment, temperature effects, alewife, South Bay, L. Huron)  
 : 1766 (mathematical models, equilibrium yields, Pacific halibut)  
 (S1) : 21 (racial studies, adaptations, *Clupea* spp., Northern Hemisphere)  
 : 31 (population control, Clupeoidei,

- World Waters)
- : 39 (spawning grounds, spawning behavior, Atlantic herring, Pacific herring, N Atl., N Pac.)
  - : 83 (environmental effects, spawning, Baltic herring, Baltic Sea)
  - : 111 (reproduction, Pacific herring, B.C.)
  - : 127 (reproduction, survival, Pacific herring, B.C.)
  - : 147 (analytical models, Atlantic menhaden, NW Atl.)
  - : 158 (environmental effects, Atlantic herring, Gulf of Maine, NW Atl.)
  - : 174 (recruitment, environmental effects, Pacific herring, Strait of Georgia, NE Pac.)
- TF 1290 (fecundity, sablefish, B.C.)
- 1313F (spawning, sexual maturity, Atlantic salmon, Koksoak R., Ungava, Que.)
- 1377 (distribution, abundance, juveniles, fishes, Bay of Quinte, Ont.)
- 1396 (acidification, white sucker, Experimental Lakes Area, NW Ont.)
- DF 526 (fecundity, Pacific ocean perch, off B.C.)
- S 3536 (crustacean culture, diets, American lobster)
- TS 5114 (fecundity, Atlantic salmon, Varguza R., USSR)
- 5137 (fecundity, maturity, Pacific salmon)
- 5141 (exploitation, harp seal, White Sea)
- 5172 (resource management, *Lessonia nigrescens*, Chile)
- Population structure (see also Age and Growth)
- J 42 : 312 (length, body size, pink salmon, chum salmon, S B.C.)
- TF 1323 (seasonal variations, Atlantic salmon, Portugal Cove, Nfld.)
- 1335 (biological sampling, age composition, chinook salmon, B.C.)
- DF 461 (biological sampling, lingcod, W Vancouver I., B.C.)
- 485 (catch/effort, Pacific herring, Tuktoyaktuk Harbour, Liverpool Bay, N.W.T.)
- 500 (fishery surveys, Pacific hake, walleye pollock, spiny dogfish, Strait of Georgia, NE Pac.)
- 502 (biological sampling, Pacific herring, B.C.)
- 505 (catch composition, biological sampling, fishes, Mosquito L., N.W.T.)
- 513 (length-weight relationships, juveniles, salmonids, Campbell R. estuary, Vancouver I., Discovery Passage, B.C.)
- 517 (age composition, landings, Pacific cod, Strait of Georgia, Strait of Juan de Fuca, NE Pac.)
- 519 (length, age, Arctic char, Cambridge Bay, Rankin Inlet, N.W.T.)
- 527 (tagging, salmonids, Campbell R. estuary, Vancouver I., Discovery Passage, B.C.)
- S 3342 (age determination, Pacific cod, N Pac.)
- 3359 (biological data, shortnose sturgeon)
- 3370 (life cycle, whales, N Atl., Arctic)
- 3371 (historical account, white whale, St. Lawrence R., Gulf of St. Lawrence)
- 3397 (age composition, morphology, chum salmon, S B.C.)
- 3454 (life history, Arctic char, Fraser R., N Labrador)
- 3461 (life history, golden king crab, NE Pac.)
- 3503 (habitat, benthos, St. Lawrence R. estuary)
- 3516 (food, growth, fishes, Holyrood Pond, Avalon Peninsula, Nfld.)
- TS 5173 (life history, *Eudontomyzon danfordi*, Romania)
- Porpoise, harbor (*Phocoena phocoena*)
- TF 1291 (tagging, stock assessment, Bay of Fundy, Gulf of Maine, NW Atl.)
- TS 5128 (age determination, mandible)
- Potamothrix* (see *Oligochaeta*)
- Prawn, freshwater (*Macrobrachium rosenbergii*)
- J 42 : 307 (culture, financial viability, HI)
- Prawn, tiger (*Penaeus monodon*)
- S 3364 (parasites, *Caligus epidemicus*, Thailand)
- Predation and Competition
- J 42 : 101 (interspecific relationships, feeding behavior, Dolly Varden, cutthroat trout, B.C.)
- : 120 (prey-predator relationships, feeding behavior, sauger, Ohio R., OH)
- : 189 (prey-predator relationships, selective feeding, *Bosmina longirostris*, *Epischura lacustris*)
- : 280 (competition, stocking density, yellow perch, pumpkinseed, L. Memphremagog, Que.)
- : 449 (prey-predator relationships, mathematical models, alewife, lake trout, L. Michigan)
- : 659 (selective feeding, pink salmon, chum salmon, coho salmon)
- : 785 (feeding behavior, visual stimuli, cutthroat trout, Dolly Varden)
- : 1114 (prey selection, plankton feeders, fishes, L. Opinicon, Ont.)
- : 1154 (interspecific relationships, forage fish, L. Michigan)
- : 1342 (interspecific relationships, food availability, bream, European eel, Tjeukemeer L., Netherlands)

- : 1720 (prey selection, freshwater predators)  
 : 1841 (prey-predator relationships, densities, ichthyoplankton, microzooplankton)  
 : 2061 (interspecific relationships, seaweeds, American lobster, green sea urchin, N.S.)  
 TF 1331 (predation, clams, scoters, Strait of Georgia, NE Pac.)  
 S 3349 (food consumption, mathematical models)  
 3350 (feeding behavior, predation, *Orchestoidea californiana*, staphylinid beetle, W Vancouver I., B.C.)  
 3449 (interspecific relationships, green sea urchin, kelp, N.S.)  
 3493 (predation, American oyster, American lobster, rock crab, mud crab)  
 3515 (competition, growth, Atlantic salmon, Matamec R., Que.)  
 TS 5165 (predation, introduced species, starfish, Japanese scallop, Vityaz Bay, Japan Sea)  
 5172 (interspecific relationships, resource management, invertebrates, *Lessonia nigrescens*)  
 Prince Edward Island (Province), Canada  
 J 42 : 1994 (osmoregulation, body size, rainbow trout)  
 Production  
 J 42 : 373 (radioactive tracers, sediment analysis, microorganisms, Marion I., B.C.)  
 : 468 (mathematical models, age, harp seal)  
 : 649 (fertilizers, freshwater lakes, phytoplankton, B.C.)  
 : 864 (mathematical models, phytoplankton)  
 : 1211 (comparative analysis, freshwater fish, Poland, Ont.)  
 : 1296 (invertebrates, chironomids, Sand R., Alta.)  
 : 1315 (stock assessment, fishes, Turkey Lakes watershed, N Ont.)  
 : 1359 (impoundments, phytoplankton)  
 : 1484 (secondary, biomass, zooplankton, Scotian Shelf, NW Atl.)  
 : 1588 (primary, salt lakes, phytoplankton, Alta.)  
 : 1733 (growth, habitat, *Eogammarus confervicolus*, Squamish R. estuary, B.C.)  
 : 1755 (temperature effects, egg size, chum salmon, Nitinat R., B.C.)  
 (1) : 69 (year-class strength, survival, northern anchovy, CA)  
 : 181 (exploitation, management, Pacific herring, E Bering Sea)  
 TF 1328 (computer programs, phytoplankton)  
 1341 (primary, measurement)  
 1376 (biological, fishery statistics, Pacific salmon, N Pac.)  
 1381 (pollution, trophic structure, Middle Quinsam L., Long L., B.C.)  
 MF 1832 (water quality, salmonids, Quinsam R. watershed, Vancouver I., B.C.)  
 S 3334 (iron, phytoplankton, Sargasso Sea)  
 3335 (thermodynamics, World Oceans)  
 3347 (microplankton, World Oceans)  
 3372 (primary, Arctic)  
 3376 (growth, cadmium compounds, *Amphidinium carteri*)  
 3377 (chlorophylls, oceanic fronts, Azores)  
 3378 (growth, phytoplankton, World Tropical Regions)  
 3379 (growth, phytoplankton, HI)  
 3391 (*Hexagenia limbata*, H. *rigida*, L. Winnipeg, Man.)  
 3393 (food webs, St. Georges Bay, N.S.)  
 3394 (photosynthesis, autotrophy, picoplankton, Foxe Basin, E Arctic)  
 3418 (primary, dissolved oxygen, N Pac.)  
 3419 (primary, Mediterranean Sea)  
 3425 (energy balance, zooplankton, Baffin Bay, Arctic)  
 3450 (primary, salt marshes, phytoplankton, Bay of Fundy, NW Atl.)  
 3494 (light effects, photosynthesis, algae, Resolute Bay, N.W.T.)  
 Protozoa  
 TH 23 (check lists, fossil dinoflagellates)  
 S 3331 (disease detection, *Cryptobia salmositica*, Pacific salmon, B.C.)  
 3341 (mutations, *Amphidinium carterae*)  
 3345 (parasites, taxonomy, *Trichodina truttae*, Pacific salmon, steelhead trout, B.C.)  
 3406 (distribution, infestations, *Cryptobia salmositica*, Pacific salmon, B.C.)  
 3441 (parasitic diseases, environmental effects, *Cryptobia salmositica*, Pacific salmon)  
*Pseudocarcinonemertes* (see Nematoda)  
*Pseudopleuronectes americanus* (see Flounder, winter)  
*Pseudoterranova* (*Phocanema*) (see Nematoda)  
*Ptychoramphus aleuticus* (see Auklet, Cassin's)  
 Pumpkinseed (*Lepomis gibbosus*)  
 J 42 : 280 (competition, stocking density, yellow perch, L. Memphremagog, Que.)  
*Pusa hispida* (see Seal, ringed)  
*hispida botnica* (see Seal, Baltic)  
*hispida ladogensis* (see Seal, Ladoga)

## Q

- Quahaug, ocean (*Arctica islandica*)  
 IF 155 (stock assessment, Scotian Shelf, Georges Bank, NW Atl.)
- Quebec (Province), Canada  
 J 42 : 23 (heavy metals, bioaccumulation, yellow water lily, lakes)  
 : 33 (biomass, models, *Laminaria longicruris*, Chaleur Bay)  
 : 280 (competition, stocking density, yellow perch, pumpkinseed, L. Memphremagog)  
 : 529 (physiological changes, smoltification, brook trout, Atlantic salmon, à la Truite R., Matamek R.)  
 : 556 (food consumption, littoral zone, fishes, L. Memphremagog)  
 : 1303 (nutrient cycles, sediment analysis, *Myriophyllum spicatum*, L. Memphremagog)  
 : 1352 (biological drift, tidal effects, rainbow smelt, Ouelle R.)  
 : 1860 (biological sampling, biomass, aquatic plants, L. Memphremagog)
- TF 1313F (spawning, sexual maturity, Atlantic salmon, Koksoak R., Ungava)  
 1314F (growth, brackishwater environment, Atlantic salmon, Koksoak R. system, Ungava)  
 1315F (marine aquaculture, information services)  
 1343F (acidification, survival, brook trout, Charlevoix)
- MF 1792F (acidification, freshwater lakes)  
 1804F (acidification, freshwater lakes, Arctic char)
- TH 53 (sediment analysis, mercury, Saguenay Fjord)  
 S 3367 (acidification, melt water, St. Marguerite R.)  
 3515 (competition, growth, Atlantic salmon, Matamek R.)  
 3517 (invertebrates, salmonids, Matamek R.)

Queen Charlotte Islands, (see British Columbia)

Queen Charlotte Sound (see Northeast Pacific Ocean)

## R

*Raphidocladus* (see Chironomidae)

Records, new (see New records)

Redfish, deepwater (*Sebastes mentella*)  
 J 42 : 1672 (analytical techniques, stock identification)

Redfish, Labrador (*Sebastes fasciatus*)  
 J 42 : 1672 (analytical techniques, stock identification)

Redfishes (*Sebastes* spp.) [Atl.] (see also names of species)

- J 42 : 1452 (growth, otolith reading, Flemish Cap, NW Atl.)  
 S 3457 (check lists, parasites, NW Atl.)  
 3553 (morphology, taxonomy, NW Atl.)  
 3554 (reproductive cycle, NW Atl.)  
 TS 5168 (taxonomy, manuals, N Atl.)

*Renibacterium* (see Diseases and Parasites)

## Reproduction

- J 42 : 164 (population dynamics, lake whitefish)  
 : 194 (light effects, spawning, American lobster)  
 : 615 (life history, variance analysis, Atlantic salmon)  
 : 1073 (artificial substrata, eggs, Atlantic salmon)  
 : 1954 (artificial insemination, fecundity, American lobster)  
 : 2053 (ovaries, meiosis, brook trout)  
 (S1) : 56 (environmental effects, reproductive cycle, Pacific herring, B.C.)
- TF 1313F (spawning, sexual maturity, Atlantic salmon, Koksoak R., Ungava, Que.)  
 S 3491 (sex hormones, ovulation, coho salmon)  
 3521 (endocrinology, Pacific salmon)  
 3535 (temperature effects, American lobster)  
 3554 (reproductive cycle, redfishes, NW Atl.)  
 TS 5175 (roes, embryonic development, loach)

Rockfishes (*Sebastes* spp.) [Pac.] (see also names of species)

- MF 1833 (sport fishing, catch/effort, Strait of Georgia, NE Pac.)  
 DF 511 (stock assessment, submersibles, Strait of Georgia, NE Pac.)

## Romania

- TS 5173 (population structure, life history, *Eudontomyzon danfordi*)

## S

Sablefish (*Anoplopoma fimbria*) (blackcod)

- TF 1290 (fecundity, B.C.)  
 MF 1835 (distribution, abundance, juveniles, W Vancouver I., B.C.)  
 S 3368 (albinism, Quatsino Sound, B.C.)

*Saetheria hirta* (Chironomidae)

- S 3412 (taxonomy, new species)

*Salmo clarki* (see Trout, cutthroat)

*clarki clarki* (see Trout, coastal cutthroat)

*gairdneri* (see Trout, rainbow; see also Trout, steelhead)

- salar* (see Salmon, Atlantic) 1314F  
*trutta* (see Trout, brown) 1323
- Salmon (Pacific in general) (*Oncorhynchus* spp.)  
 J 42 : 51 (fishing power, purse seine fleet, B.C.) 1358  
 : 1033 (geographical distribution, escapement, B.C.) 1362
- TF 1311 (landing statistics, fishing vessels, B.C.) MF 1776  
 1326 (escapement, stream indexing) 1823F  
 1353 (length, scales) 1827F  
 1376 (fishery statistics, biological production, N Pac.) DF 475
- MF 1784 (landing statistics, commercial fishing, B.C.) 477  
 1801 (sport fishing statistics, logbooks, B.C.) 478  
 1819 (fishery statistics, historical account, N Pac.) 481
- DF 409 (hatchery sites, water quality analysis, B.C.) S 3326  
 462 (meteorological observations, fish farming, Nanaimo, Vancouver I., B.C.) 3430  
 474 (escapement, rivers, Y.T.) 3464  
 496 (aquaculture techniques, B.C.) 3475  
 S 3331 (disease detection, *Cryptobia salmositica*, B.C.) 3476  
 3345 (parasites, taxonomy, *Trichodina truttae*, B.C.) 3515  
 3380 (vectors, fish eggs, *Renibacterium salmoninarum*) 3562  
 3441 (parasitic diseases, environmental effects, *Cryptobia salmositica*) 3563  
 3521 (endocrinology, reproduction) 3567  
 TS 5137 (fecundity, maturity) TS 5114
- Salmon, Atlantic (*Salmo salar*)  
 J 42 : 250 (stock identification, scales, N.S.) TF 1292  
 : 292 (acidification, eggs, juveniles, Maritime Provinces) 1335  
 : 529 (physiological changes, smoltification, à la Truite R., Que.) 1352  
 : 539 (growth, smolts, Little Codroy R., Nfld.) 1357  
 : 593 (migrations, water temperature, smolts, Isma R., Norway) 1364  
 : 615 (life history, variance analysis) 1369  
 : 619 (buoyancy, current velocity) 1390  
 : 768 (acidification, survival, juveniles) DF 463  
 : 1073 (aquaculture, artificial substrata) S 3409  
 : 1513 (water temperature, migrations, Dee R., Scotland) 3477  
 : 1658 (orientation behavior, olfaction) 3478  
 SP 76 (historical account, fisheries, Nfld., Labrador) 3556
- 80 (historical account, North America) Salmon, chinook (*Oncorhynchus tshawytscha*)  
 TF 1313F (spawning, sexual maturity, Koksoak R., Ungava, Que.) J 42 : 287 (growth, egg weight, juveniles) : 693 (spawning grounds, spawning seasons, Kenai R., AK) : 899 (growth, otoliths, juveniles, Sixes R. estuary, OR)
- (landing statistics, fishing vessels, B.C.) TF 1292  
 (biological sampling, age composition, B.C.) 1335  
 (migrations, distribution, Yukon R. basin, B.C., Y.T.) 1352  
 (aquaculture techniques, incubation, B.C.) 1357  
 (parasites, water pollution treatment, *Ceratomyxa shasta*, Fraser R., B.C.) 1364  
 (wounds, regeneration) 1369  
 (aquaculture techniques, aeration, Puntledge hatchery, B.C.) 1390  
 (body size, survival, Campbell R., Vancouver I., B.C.) DF 463  
 (toxicity, disinfectants) S 3409  
 (diets, growth) 3477  
 (osmoregulation, temperature effects) 3478  
 (parasites, juveniles, *Ceratomyxa shasta*, Fraser R., B.C.) 3556
- Salmon, chum (*Oncorhynchus keta*)  
 J 42 : 312 (length, body size, S B.C.) : 437 (biochemical analysis, stock



- identification, S B.C.) : 659 (selective feeding, predation, coho salmon)
- : 1755 (temperature effects, egg size effects, Nitinat R., B.C.)
- TF 1330 (incubation, equipment, B.C.)
- 1349 (migrations, sonic tags, Fraser R., B.C.)
- 1356 (stock identification, biochemistry, Georgia Strait, Johnstone Strait, B.C.)
- 1366 (catch statistics, stock assessment, Vancouver I., B.C.)
- MF 1814 (stock assessment, Queen Charlotte Is., B.C.)
- 1817 (groundwater quality, hatcheries, Mathers Creek, Queen Charlotte Is., B.C.)
- 1838 (experimental fishing, gillnets, Upper Dean Channel, B.C.)
- DF 529 (catch/effort, Fraser R., B.C.)
- S 3397 (age composition, morphology, S B.C.)
- 3399 (temperature effects, gametes)
- 3466 (population genetics, phenotypic variations, B.C.)
- 3471 (eggs, growth)
- Salmon, coho (*Oncorhynchus kisutch*)
- J 42 : 459 (population dynamics, mathematical models, Columbia R., WA, OR, CA)
- : 659 (selective feeding, predation, pink salmon, chum salmon)
- : 1222 (nutrients, carcasses, Olympic Peninsula, WA)
- : 1410 (suspended particulate matter, behavioral responses)
- : 1915 (food preferences, fish culture)
- : 1986 (parasite control, chlorine, salmon leech)
- : 2020 (morphology, stock identification, B.C.)
- : 2029 (stock identification, swimming, B.C.)
- TF 1304 (landing statistics, fishing vessels, B.C.)
- 1306 (survival, body size, B.C.)
- 1337 (density dependence, survival, juveniles, Vancouver I., B.C.)
- 1385 (diets, evaluation, B.C.)
- MF 1815 (tagging, juveniles, Pitt R., B.C.)
- S 3471 (eggs, growth)
- 3491 (sex hormones, ovulation)
- 3518 (endocrinology, induced ovulation)
- 3539 (growth, hormones)
- 3558 (immunization, *Aeromonas salmonicida*)
- 3559 (immunization, *Aeromonas salmonicida*)
- Salmon, masou (*Oncorhynchus masou*) (cherry salmon)
- TS 5167 (quality control, canned products, Japan)
- Salmon, pink (*Oncorhynchus gorbuscha*)
- J 42 : 312 (length, body size, S B.C.)
- : 659 (selective feeding, predation, coho salmon)
- : 1474 (population genetics, stock identification, Puget Sound, WA, S B.C.)
- TF 1317 (surveys, E L. Superior)
- 1360 (scales, body region)
- MF 1785 (stock assessment, run reconstruction, B.C.)
- S 3438 (population genetics, stock identification, NE Pac.)
- 3474 (new records, *Ceratomyxa shasta*, Fraser R., B.C.)
- 3514 (diets, growth)
- 3522 (physiological changes, spawning migration)
- 3523 (physiological changes, spawning migration)
- 3561 (morphology, enzymes, S B.C., Puget Sound, WA)
- TS 5136 (migrations, fry, Iwaobetsu R., USSR)
- Salmon, sockeye (*Oncorhynchus nerka*)
- J 42 : 320 (nutrients, growth, coastal lakes, B.C.)
- : 1312 (detection, *Henneguya salmonicola*)
- : 1595 (sexual maturity, annual variations, B.C.)
- : 1696 (stock identification, egg size, Stikine R., B.C.)
- TF 1297 (age, scales, juveniles, Babine L., B.C.)
- 1324 (fertilization, evaluation, lakes, B.C.)
- 1349 (migrations, sonic tags, Fraser R., B.C.)
- 1367 (migrations, tagging, Alberni Inlet, Vancouver I., B.C.)
- MF 1780 (stock assessment, run reconstruction, B.C.)
- 1783 (scales, regeneration, Fraser R., Skeena R., B.C.)
- 1838 (experimental fishing, gillnets, Upper Dean Channel, B.C.)
- Salmonidae
- J 42 : 1290 (immunity, agglutinins, *Aeromonas salmonicida*)
- TF 1386 (pollution effects, supersaturation, Nechako R., B.C.)
- 1388 (water analysis, pH, B.C., Y.T.)
- 1389 (water analysis, pH, salmonids, Hat Creek area, B.C.)
- MF 1808 (data collections, information retrieval, salmonids, B.C.)
- 1832 (biological production, water quality, salmonids, Quinsam R. watershed, Vancouver I., B.C.)
- DF 495 (habitat, escapement, salmonids, Lower Fraser R., B.C.)
- 497 (catch statistics, salmonids, Campbell R., Vancouver I., Discovery Passage, B.C.)
- 501 (data processing, pollution



- effects, salmonids)  
 504 (habitat, escapement, salmonids, Vancouver I., B.C.)  
 506 (geographical distribution, habitat, salmonids, B.C.)  
 507 (catch statistics, seining, salmonids, B.C.)  
 512 (catch statistics, food fish, Fraser R., B.C.)  
 513 (length-weight relationships, juveniles, Campbell R. estuary, Vancouver I., Discovery Passage, B.C.)  
 518 (catalogues, spawning escapement, salmonids, Fraser R. watershed, B.C.)  
 520 (feeding behavior, zooplankton, salmonids, Campbell R. estuary, Vancouver I., B.C.)  
 521 (catalogues, spawning escapement, salmonids, Chilliwack-Hope region, B.C.)  
 527 (tagging, population structure, salmonids, Discovery Passage, Campbell R. estuary, B.C.)  
 S 3507 (environmental impact, coal, Fraser R. estuary, B.C.)  
 3517 (invertebrates, salmonids, Matamec R., Que.)  
 3560 (stock assessment, rivers, St. John's, Nfld.)  
 TS 5134 (taxonomy, ovaries, salmonids)  
 5159 (diseases, hatcheries, salmonids, Hiroshima Prefecture, Japan)  
 5160 (parasites, nerve tissue,  
 5161) myxosporidians, Hiroshima Prefecture, Japan)  
 5184 (fish culture, economic analysis, Norway)  
 5193 (diseases, therapy, *Aeromonas salmonicida*)  
 5195 (nutrient requirements, selenium)  
*Salvelinus alpinus* (see Char, Arctic)  
*fontinalis* (see Trout, brook)  
*leucomaenis* (see Char, spotted)  
*malma* (see Dolly Varden)  
*namaycush* (see Trout, lake)  
 Sardine, Pacific (*Sardinops sagax*)  
 TS 5167 (quality control, canned products, Japan)  
*Sardinops sagax* (see Sardine, Pacific)  
 Sargasso Sea  
 S 3334 (iron, primary production)  
*Sarotherodon aureus* (see Tilapia, blue)  
 Sauger (*Stizostedion canadense*)  
 J 42 : 120 (prey-predator relationships, feeding behavior, Ohio R., OH)  
 Scallop, Iceland (*Chlamys islandica*)  
 TS 5191 (harvesting, processing fishery products, Norway)  
 Scallop, Japanese (*Pecten yessoensis*)  
 (*Platinopecten yessoensis*)  
 TS 5165 (introduced species, predation, starfish, Vityaz Bay, Japan Sea)  
 Scallop, sea (*Placopecten magellanicus*) (giant scallop)  
 TF 1382 (fishery management, Bay of Fundy, Georges Bank, NW Atl.)  
 S 3361 (trace metals, Georges Bank, Browns Bank, NW Atl.)  
*Scenedesmus* (see Algae)  
*Scomber japonicus* (see Mackerel, Pacific)  
*scombrus* (see Mackerel, Atlantic)  
 Scoters (*Melanitta* spp.)  
 TF 1331 (predation, clams, Strait of Georgia, NE Pac.)  
 Scotia-Fundy Region (see Northwest Atlantic Ocean)  
 Scotian Shelf, Northwest Atlantic Ocean  
 J 42 : 880 (geographical distribution, oceanographic features, Atlantic herring)  
 : 1484 (secondary production, biomass, zooplankton)  
 TF 1264 (surveys, abundance, larval Brachyura)  
 1300 (geographical distribution, temporal distribution, demersal fishes)  
 1322 (identification keys, larvae, Brachyura)  
 1347 (multispecies fisheries, fishery management)  
 IF 155 (stock assessment, ocean quahaug, Stimpson's surf clam, Georges Bank)  
 DH 1 (oceanographic data, undulators)  
 S 3502 (parasites, helminths, pollock)  
 Scotland  
 J 42 : 1513 (water temperature, migrations, Atlantic salmon, Dee R.)  
 Sculpin, slimy (*Cottus cognatus*)  
 J 42 : 483 (digestion, stomach content, chironomids, Toolik L., AK)  
 TF 1374 (vertical distribution, lakes, NW Ont.)  
 Sea lion, California (*Zalophus californianus*)  
 SP 77 (population number, seasonal variations, B.C.)  
 DF 460 (population number, hunting statistics, B.C., WA, AK)  
 Sea lion, Stellar (*Eumetopias jubata*)  
 SP 77 (population number, seasonal variations, B.C.)  
 DF 460 (population number, hunting

- statistics, B.C., WA, AK)
- Seal, Baltic (*Pusa hispida botnica*)  
TS 5112 (parasites, helminths, Baltic Sea)
- Seal, bearded (*Erignathus barbatus*)  
J 42 : 1189 (distribution, abundance, Arctic)
- Seal, grey (*Halichoerus grypus*) (gray seal)  
S 3358 (biochemistry, enzyme activity)  
3392 (DDT, PCBs, NW Atl.)  
TS 5112 (parasites, helminths, Baltic Sea)
- Seal, harbor (*Phoca vitulina*)  
J 42 : 1439 (food consumption, otoliths, Atlantic herring)
- Seal, harp (*Pagophilus groenlandicus*) (*Phoca groenlandica*)  
J 42 : 468 (biological production, age)  
S 3392 (DDT, PCBs, NW Atl.)  
TS 5141 (population dynamics, exploitation, White Sea)  
5169 (fisheries, sociology, Twillingate, Nfld.)
- Seal, Ladoga (*Pusa hispida ladogensis*)  
TS 5112 (parasites, helminths, L. Ladoga, USSR)
- Seal, northern fur (*Callorhinus ursinus*)  
S 3534 (digestion, food organisms)
- Seal, ringed (*Pusa hispida*) (*Phoca hispida*)  
J 42 : 1189 (distribution, abundance, Arctic)  
: 1238 (geographical distribution, vocalization behavior, Barrow Strait, N.W.T.)  
TS 5152 (feeding)  
5166 (feeding behavior, digestion, N USSR)
- Seals (see Mammalia)
- Sebastes alutus* (see Perch, Pacific Ocean)  
*fasciatus* (see Redfish, Labrador)  
*mentella* (see Redfish, deepwater)  
spp. (see Redfishes [Atl.]; Rockfishes [Pac.]
- Selenastrum* (see Algae)
- Shad, American (*Alosa sapidissima*)  
J 42 : 1640 (environmental effects, growth, Connecticut R., USA)  
: 1649 (catchability, population density, Connecticut R., USA)  
TF 1340 (tidal power plants, Annapolis R., N.S.)  
MF 1793F (habitat improvement, resource management, St. Lawrence R.)
- Shark, sandbar (*Carcharhinus plumbeus*)  
J 42 : 963 (age, growth, NW Atl.)
- Shellfish (see Mollusca)
- Skipjack tuna (*Euthynnus pelamis*)  
TS 5145 (enzyme activity, frozen storage)  
5146 (enzyme activity, frozen storage)
- Smelt, rainbow (*Osmerus mordax*)  
J 42 : 332 (dispersion, retention, juveniles, St. Lawrence R. estuary)  
: 1352 (biological drift, tidal effects, St. Lawrence R. estuary, Ouelle R., Que.)  
S 3462 (avoidance reaction, suspended sediments)
- Smoothtongue, northern (*Leuroglossus schmidtii*)  
J 42 : 1144 (population dynamics, Strait of Georgia, NE Pac.)
- Sole, English (*Parophrys vetulus*)  
J 42 : 1870 (chemical pollutants)
- Spain  
TS 5179 (molluscan larvae, Pontevedra estuary, NW Spain)
- Spartina alterniflora* (see Grass, marsh)
- Species, new (see New species)
- Spisula polynyma* (see Clam, Stimpson's surf)
- Spitsbergen  
TS 5162 (distribution, Atlantic argentine)
- Sport fishing  
SP 82 (conferences, resource management, Canada)  
TF 1362 (catch statistics, Atlantic salmon, Restigouche R., N.B.)  
MF 1787 (surveys, B.C.)  
1794 (SCUBA diving, biological collections, Strait of Georgia, NE Pac.)
- 1802 (angling, census, demersal fishes, B.C.)  
1803 (catch/effort, lake trout, Fox L., Marsh L., Tagish L., Y.T.)  
1833 (catch/effort, spiny dogfish, rockfishes, lingcod, Strait of Georgia, NE Pac.)
- Sprat (*Sprattus sprattus*)  
TS 5113 (transportation, container ships, Norway)
- Sprattus sprattus* (see Sprat)
- Squalus acanthias* (see Dogfish, spiny)
- Squid, short-finned (*Illex illecebrosus*)  
J 42 : 380 (strontium, statolith)  
S 3555 (distribution, length, juveniles, NW Atl.)

- St. Lawrence, Gulf of  
 J 42 : 168 (vertical distribution, substrate preference, snow crab, SW Gulf of St. Lawrence)  
 : 544 (pollution monitoring, petroleum hydrocarbon residues)  
 : 577 (population dynamics, juveniles, Atlantic mackerel)  
 : 1556 (organic matter, winter)  
 TF 1201F (parasitism, *Phocanema decipiens*, *Anisakis* sp., *Contracaecum* sp., Atlantic cod, American plaice, witch flounder, S Gulf of St. Lawrence)  
 1387 (distribution, autumn, Atlantic cod)  
 MF 1431R (check lists, invertebrates, fishes, algae, Northumberland Strait)  
 DH 22 (bottom temperature data)  
 TS 5182 (settling behavior, vertical distribution, snow crab, SW Gulf of St. Lawrence)
- St. Lawrence River; St. Lawrence River estuary  
 J 42 : 332 (dispersion, retention, juveniles, rainbow smelt)  
 : 1158 (tidal effects, suspended particulate matter, blue mussel)  
 : 1166 (growth, limiting factors, blue mussel)  
 : 1352 (biological drift, tidal effects, rainbow smelt)  
 (S1) : 91 (environmental effects, tides, larvae, Atlantic herring)  
 MF 1793F (habitat improvement, resource management, American shad)  
 S 3369 (electroanalysis, mortality, American eel)  
 3371 (population structure, catch statistics, white whale)  
 3381 (chemical oceanography, chromium)  
 3442 (migrations, bacterial diseases, American eel)  
 3503 (habitat, population structure, benthos)
- Starfish (Asteroidea)  
 TS 5153 (chemoreception, chemical stimuli, Japan Sea)  
 5165 (predation, introduced species, yezo scallop, Vityaz Bay, Japan Sea)
- Stickleback, threespine (*Gasterosteus aculeatus*)  
 TF 1325 (growth, food, Experimental Ponds Area, Nfld.)
- Stizostedion canadense* (see Saugey)  
*vitreum vitreum* (see Walleye)
- Strait of... (see name of strait)
- Strongylocentrotus droebachiensis* (see Urchin, green sea)
- Sturgeon, shortnose (*Acipenser brevirostrum*)  
 S 3551 (stock assessment, population number, Saint John R., N.B.)  
 3359 (population structure, biological data)
- Sturgeon, white (*Acipenser transmontanus*)  
 J 42 : 1321 (viral diseases, fish culture)  
 MF 1828 (bibliographies)
- Stylodrilus sovaliki* (Oligochaeta)  
 TH 44 (taxonomy, new species, World Inland Waters)
- Sublettiella* (see Chironomidae)
- Sucker, white (*Catostomus commersoni*)  
 TF 1321 (age determination, fins, Experimental Lakes Area, NW Ont.)  
 1396 (acidification, population dynamics, Experimental Lakes Area, NW Ont.)  
 S 3567 (blood, acidification, N.S.)
- Superior, Lake, America  
 TF 1317 (surveys, pink salmon, E L. Superior)
- Synchitrium endobioticum* (fungus)  
 S 3455 (biochemical analysis, sporangia)
- Synechococcus* (see Algae)
- T
- Tetrapleurodon geminis* (Cyclostomata)  
 TS 5171 (taxonomy, new species, Jacona, Mexico)
- Tetrapleurodon spadiceus* (Cyclostomata)  
 TS 5171 (taxonomy, new species, Jacona, Mexico)
- Thailand  
 S 3364 (parasites, *Caligus epidemicus*, tiger prawn)
- Thalassiosira* (see Algae)
- Theragra chalcogramma* (see Pollock, walleye; see also Pollack, Alaska)
- Thinopinus pictus* (see Beetle, staphylinid)
- Thunnus alalunga* (see Albacore)  
*thynnus* (see Tuna, bluefin)
- Thyamallus articus* (see Grayling, Arctic)
- Thysanoessa* (see Crustacea)
- Tilapia, blue (*Sarotherodon aureus*)  
 S 3525 (sex hormones, bioassays)
- Toxicity  
 J 42 : 630 (pollution effects, gills, fishes)  
 : 731 (zinc, water quality, rainbow

- trout)  
 : 841 (bioaccumulation, lead, rainbow trout)  
 : 1007 (copper, diets, rainbow trout)  
 : 1132 (selenium, zooplankton, Clay L., Ont.)  
 : 1244 (sediment pollution, bioluminescence, bacteria)  
 : 1332 (zinc, rainbow trout)  
 : 1465 (heavy metals, bioturbation, invertebrates, Ont.)  
 : 1741 (aluminum, pH, *Daphnia magna*)  
 : 2934 (metals, acidification, aquatic organisms)  
 TF 1334 (immunity, literature reviews, fishes)  
 MF 1800 (toxicants, pollutants, marine organisms, N.S., Bay of Fundy, NW Atl.)  
 S 3354 (cadmium, rainbow trout)  
 3357 (marine fishes, *Gonyaulax* spp.)  
 3390 (copper, *Daphnia magna*, L. Ontario)  
 3400 (tests, marine environment, Canada)  
 3409 (disinfectants, gill disease, chinook salmon)  
 3411 (temperature effects, rainbow trout)  
 3479 (heavy metals, pH, *Scenedesmus quadricauda*)  
 3489 (PCB replacement)  
 3492 (prediction, pelagic environment)  
 3499 (herbicides, soils)  
 TS 5116 (drugs, diseases, rainbow trout)
- Trachurus trachurus* (see Mackerel, horse)  
 (*Caranx trachurus*)
- Trematoda  
 S 3497 (parasitism, winter flounder, Passamaquoddy Bay, N.B.)
- Trichodina* (see Protozoa)
- Trichoptera (caddisflies)  
 S 3362 (emergence, South Duck R., Cowan Creek, Man.)
- Tropical zones  
 S 3433 (pollution effects, petroleum)  
 3434 (diseases, parasites, fish culture)
- Trout, brook (*Salvelinus fontinalis*)  
 J 42 : 529 (physiological changes, smoltification, à la Truite R., Matamek R., Que.)  
 : 2053 (ovaries, meiosis)  
 TF 1343F (acidification, survival, Charlevoix, Que.)  
 1370 (surveys, introduced species, South Duck R., Cowan Creek, Man.)  
 MF 1788 (habitat selection, South Duck R., Man.)  
 S 3421 (feeding, aggressive behavior, juveniles)
- Trout, brown (*Salmo trutta*)  
 TS 5115 (diseases, therapy, *Aeromonas*
- salmonicida*)  
 Trout, coastal cutthroat (*Salmo clarki clarki*)  
 J 42 : 110 (hybridization, steelhead trout, streams, WA)  
 Trout, cutthroat (*Salmo clarki*)  
 J 42 : 101 (interspecific relationships, feeding behavior, Dolly Varden, lakes, B.C.)  
 : 785 (feeding behavior, visual stimuli)  
 : 1668 (food availability, habitat selection)  
 S 3406 (new records, parasitism, *Cryptobia salmositica*, Big Qualicum R., Vancouver I., B.C.)  
 Trout, lake (*Salvelinus namaycush*)  
 J 42 : 449 (prey-predator relationship, mathematical models, alewife, L. Michigan)  
 : 737 (stock discrimination, biological development, Great Lakes drainage, Mississippi R. drainage)  
 MF 1803 (sport fishing, catch/effort, Fox L., Marsh L., Tagish L., Y.T.)  
 Trout, rainbow (*Salmo gairdneri*)  
 J 42 : 181 (diets, trace metals)  
 : 268 (bubble disease, gas supersaturation, SW Man.)  
 : 488 (tagging, behavior)  
 : 710 (acidification, physiology)  
 : 731 (toxicity, water quality, zinc)  
 : 841 (toxicity tests, bioaccumulation, lead)  
 : 1007 (toxicity, copper)  
 : 1332 (toxicity, zinc)  
 : 1994 (salinity tolerance, body size, P.E.I.)  
 : 2004 (aluminum, acidification, juveniles)  
 TF 1348 (fish diseases, haematology)  
 1379 (temperature effects, triploidy)  
 1380 (steroids, sex reversal)  
 S 3328 (bioaccumulation, halogenated aromatics)  
 3344 (polyploids, induction)  
 3354 (toxicity, cadmium)  
 3365 (hormones, sexual maturity)  
 3403 (recirculating systems, fish culture)  
 3405 (herbicides, detection)  
 3411 (toxicants, temperature effects)  
 3420 (olfaction, nerves)  
 3446 (viral diseases, serum inhibitors, Canada)  
 3531 (pollution, halogen compounds)  
 3551 (chlorine compounds)  
 TS 5115 (diseases, therapy, *Aeromonas salmonicida*)  
 5116 (toxicity, drugs)  
 5117 (disease detection, methodology, *Myxosoma cerebralis*)  
 5194 (diseases, therapy, *Yersinia*

- ruckeri*
- Trout, steelhead (*Salmo gairdneri*)
- J 42 : 110 (hybridization, coastal cutthroat trout, streams, WA)
- : 1702 (aggressive behavior, juveniles)
- DH 496 (aquaculture techniques, B.C.)
- S 3345 (parasites, taxonomy, *Trichodina truttae*, B.C.)
- 3519 (pH, eggs)
- Tuna, bluefin (*Thunnus thynnus*)
- J 42 : 938 (age determination, vertebrae)
- Tunicata
- TS 5118 (morphology, exoskeleton, *Oikopleura dioica*, *Botryllus schlosseri*)
- 5132 (exoskeleton, biological development, *Oikopleura dioica*)
- Tursiops truncatus* (see Dolphin, bottlenose)
- U
- Urchin, green sea (*Strongylocentrotus droebachiensis*)
- J 42 : 2061 (interspecific relationships, seaweeds, American lobster, N.S.)
- S 3449 (predation, interspecific relationships, kelp, N.S.)
- USA (United States of America) (see also names of states)
- J 42 : 1640 (environmental effects, growth, American shad, Connecticut R.)
- : 1649 (catchability, population density, American shad, Connecticut R.)
- : 1681 (chlorine compounds, sociological aspects, Niagara R.)
- USSR (Union of Soviet Socialist Republics)
- TS 5112 (parasites, helminths, Ladoga Sea, L. Ladoga)
- 5114 (fecundity, Atlantic salmon, Varguza R.)
- 5133 (parasites, check lists, helminths, Dolly Varden, spotted char, E USSR)
- 5135 (parasites, life cycle, Arctic char, L. Azabach'e, Kamchatka)
- 5136 (migrations, fry, pink salmon, Iwobetsu R.)
- 5138 (check lists, phytoplankton, Arctic Basin)
- 5140 (migrations, tagging, Alaska pollack, Kamchatka)
- 5155 (check lists, aquatic oligochaetes, S Karelia, NW USSR)
- 5156 (ecology, geographical distribution, *Potamothenrix hammoniensis*)
- 5157 (pollution effects, eutrophication, oligochaetes, Slocene R., Latvia)
- 5158 (pollution monitoring, indicator species, oligochaetes, L. Ladoga)
- 5166 (feeding behavior, digestion, ringed seal, N USSR)
- V
- Vancouver Island (see British Columbia)
- Varichaetadrilus minutus* (Oligochaeta)
- TH 44 (taxonomy, new species, World Inland Waters)
- Vibrio* spp. (see Diseases and Parasites)
- Vibrionaceae (see Bacteria)
- W
- Walleye (*Stizostedion vitreum vitreum*)
- S 3487 (age determination, scales)
- 3504 (pollution effects, pesticides, Man.)
- Washington State, USA
- J 42 : 110 (hybridization, steelhead trout, coastal cutthroat trout, streams)
- : 459 (population dynamics, mathematical models, coho salmon, Columbia R.)
- : 1222 (nutrients, carcasses, coho salmon, Olympic Peninsula)
- : 1474 (population genetics, stock identification, Puget Sound)
- MF 1825 (distribution, stock assessment, Pacific hake, walleye pollock)
- DF 460 (population number, hunting statistics, Stellar sea lion, California sea lion)
- S 3561 (enzymes, morphology, pink salmon, Puget Sound)
- Whale, bowhead (*Balaena mysticetus*)
- TF 1350 (distribution, Beaufort Sea)
- Whale, white (*Delphinapterus leucas*) (beluga)
- J 42 : 676 (geographical distribution, population number, Arctic)
- DF 490 (hunting statistics, Cumberland Sound, Baffin I., N.W.T.)
- S 3371 (population structure, catch statistics, St. Lawrence R., Gulf of St. Lawrence)
- Whales and Whaling
- J 42 : 976 (abundance, feeding behavior, capelin, Nfld.)
- S 3370 (population structure, life cycle, N Atl., Arctic)
- White Sea
- TS 5141 (population dynamics, exploitation, harp seal)
- Whitefish, broad (*Coregonus nasus*)
- TF 1336 (migratory behavior, feeding, Tuktoyaktuk Peninsula, N.W.T.)



Whitefish, lake (*Coregonus clupeaformis*)

- J 42 : 129 (fertilization, population dynamics, Experimental Lakes Area, NW Ont.)  
 : 164 (population dynamics, reproduction rate)  
 : 1522 (environmental effects, swimming)  
 TF 1336 (migratory behavior, feeding, Tuktoyaktuk Peninsula, N.W.T.)  
 MF 1820 (migrations, spawning populations, Little Buffalo R., N.W.T.)

Whiting (*Gadus merlangus*)

- TS 5120 (parasites, juveniles, jellyfish)

## Whiting, Pacific (see Hake, Pacific)

## Wisconsin State, USA

- J 42 : 1178 (vertical distribution, prediction, lake herring, yellow perch)

## World Inland Waters

- TH 44 (catalogue, new species, oligochaetes)

## World Oceans

- S 3335 (primary production, thermodynamics)  
 3340 (pollution, oil)  
 3347 (production, microplankton)  
 3426 (check lists, plankton)

## World Tropical Regions

- S 3378 (growth, phytoplankton)

## World Waters

- J 42(S1) : 2 (conferences, fishery management, Clupeoidei)  
 : 3 (taxonomy, Clupeoidei)  
 : 31 (population dynamics, population control, Clupeoidei)  
 : 275 (synopsis, conferences, Clupeoidei)  
 TF 1345 (bibliographies, Arctic char, Dolly Varden, spotted char)

## Y

## Yersinia (see Diseases and Parasites; see also Bacteria)

## Yukon Territory (Territory), Canada

- TF 1287 (pollution effects, mining, Arctic grayling, invertebrates, Minto Creek)  
 1352 (migrations, distribution, chinook salmon, Yukon R. basin)  
 1388 (water analysis, pH, salmonids)  
 MF 1803 (sport fishing, catch/effort, lake trout, Fox L., Marsh L., Tagish L.)  
 DF 474 (rivers, escapement, Pacific salmon)

## Z

## Zalophus californianus (see Sea lion, California)

# AUTHOR INDEX/INDEX PAR AUTEUR

(NOTE: The numerals in parentheses at the end of some references indicate the name of the establishment from which the information or the report originated. See pages 2086 and 2087 for addresses corresponding to these numerals.)

(REMARQUE: Les chiffres entre parenthèses, à la fin des références indique l'établissement d'où provient la documentation du rapport. Voir aux pages 2086 et 2087 les adresses correspondant à ces chiffres.)

## A

- Abbott, J. C., and L. M. Dill. 1985. Patterns of aggressive attack in juvenile steelhead trout (*Salmo gairdneri*). Can. J. Fish. Aquat. Sci. 42: 1702-1706.
- Abbott, M. R. see Hill, S. H.
- Abou Debs, C. see Head, E. J.
- Actor, D. I. see Schiewe, M. H.
- Addison, R. F. 1984. Marine ecotoxicological testing in Canada - a personal assessment, p. 163-177. In G. Persoone, E. Jaspers, and C. Claus (eds.) Ecotoxicological testing for the marine environment, Vol. 1. State Univ. Ghent and Inst. Mar. Scient. Res., Bredene, Belgium. S 3400. (7)
- Addison, R. F., and P. F. Brodie. 1984. Characterization of ethoxyresorufin O-deethylase in grey seal *Halichoerus grypus*. Comp. Biochem. Physiol. 79: 261-263. S 3358. (7)
- Addison, R. F., P. F. Brodie, M. E. Zinck, and D. E. Sergeant. 1984. DDT has declined more than PCBs in eastern Canadian seals during the 1970s. Environ. Sci. Technol. 18: 935-937. S 3392. (7)
- Addison, R. F. see Willis, D. E.
- Aiker, D. E., and S. L. Waddy. 1985. Production of seed stock for lobster culture. Aquaculture 44: 103-114. S 3431. (6)
- Aiken, D. E., and S. L. Waddy. 1985. The uncertain influence of spring photoperiod on spawning in the American lobster, *Homarus americanus*. Can. J. Fish. Aquat. Sci. 42: 194-197.
- Aiken, D. E., S. L. Waddy, K. Moreland, and S. M. Polar. 1984. Electrically induced ejaculation and artificial insemination of the American lobster *Homarus americanus*. J. Crustacean Biol. 4: 519-527. S 3352. (6)
- Aiken, D. E., S. L. Waddy, and L. S. Uhazy. 1985. Aspects of the biology of *Pseudocarcinonemertes homari* and its association with the American lobster, *Homarus americanus*. Can. J. Fish. Aquat. Sci. 42: 351-356.
- Aiken, D. E. see Dehn, P. F.
- Aiken, D. E. see Eagles, M. D.
- Aiken, D. E. see Uhazy, L. S.
- Aiken, D. E. see Waddy, S. L.
- Akagi, H. see Ray, S.
- Alcaraz, M. see Dominguez, M.
- Alderdice, D. F., and A. S. Hourston. 1985. Factors influencing development and survival of Pacific herring (*Clupea harengus pallasii*) eggs and larvae to beginning of exogenous feeding. Can. J. Fish. Aquat. Sci. 42 (Suppl.1): 56-68.
- Alderdice, D. F., and J. O. T. Jensen. 1985. Assessment of the influence of gas supersaturation on salmonids in the Nechako River in relation to Kemano Completion. Can. Tech. Rep. Fish. Aquat. Sci. 1386: 48 p. (1)
- Alderdice, D. F., F. E. A. Wood, and D. W. Narver (eds.) 1984. Salmonid enhancement program-- preliminary notes on new information in salmonid propagation. Can. Data Rep. Fish. Aquat. Sci. 496: 102 p. (1)
- Alderdice, D. F. see Jensen, J. O. T.
- Alexander, A. see Serbic, G.
- Allan, J. D., and E. Russek. 1985. The quantification of stream drift. Can. J. Fish. Aquat. Sci. 42: 210-215.
- Allan, J. W. see Burton, T. M.
- Allard, L. see Scott, K. R.
- Allard, M., and G. Moreau. 1985. Short-term effect on the metabolism of lotic benthic communities following experimental acidification. Can. J. Fish. Aquat. Sci. 42: 1676-1680.

- Alvarez del Villar, J. 1964. Michoacán ichthyology, IV. Contribution to the biology and systematics of the lampreys of Jacona, Mexico. Can. Transl. Fish. Aquat. Sci. 5171: 61 p. (Translated from Spanish: An. Esc. Nac. Cienc. Biol. (Mex.) 13(1-4): 106-144.)
- Amaratunga, T. see Caddy, J. F.
- Amundson, C. H. see Malison, J. A.
- Andersen, F. Ø. see Kepkay, P. E.
- Anderson, B. see Birtwell, I. K.
- Anderson, E. P. see Levings, C. D.
- Anderson, J. L., and J. E. Wilen. 1985. Estimating the population dynamics of coho salmon (*Oncorhynchus kisutch*) using pooled time-series and cross-sectional data. Can. J. Fish. Aquat. Sci. 42: 459-467.
- Anderson, J. T. see Tremblay, M. J.
- Anderson, L. G., A. R. Coote, and E. P. Jones. 1985. Nutrients and alkalinity in the Labrador Sea. J. Geophys. Res. 90: 7355-7360. S 3545. (7)
- Anderson, L. G., and E. P. Jones. 1985. Measurements of total alkalinity, calcium, and sulfate in natural sea ice. J. Geophys. Res. 90: 9194-9198. S 3543. (7)
- Anderson, M. R. see Downing, J. A.
- Anderson, R. O. see Coble, D. W.
- Andrews, C. W. see O'Connell, M. F.
- Andrews, W. T. see Shaw, W.
- Aneer, G. 1985. Some speculations about the Baltic herring (*Clupea harengus membras*) in connection with the eutrophication of the Baltic Sea. Can. J. Fish. Aquat. Sci. 42 (Suppl.1): 83-90.
- Angus, R. B., C. M. Hawkins, P. Woo, and B. Mullen. 1985. Soft-shell clam survey of the Annapolis Basin, Nova Scotia - 1983. Can. MS Rep. Fish. Aquat. Sci. 1807: 133 p. (8)
- Angus, R. B., and P. Woo. 1985. Soft-shell clam (*Mya arenaria*) resource inventory - Buckmans Creek, Charlotte County, New Brunswick - 1984. Can. MS Rep. Fish. Aquat. Sci. 1842: 17 p. (8)
- Angus, R. B., P. Woo, C. M. Hawkins, and B. Mullen. 1985. Soft-shell clam surveys in Charlotte County, New Brunswick - 1983. Can. MS Rep. Fish. Aquat. Sci. 1812: 69 p. (8)
- Anonymous. 1985. Atlantic fishing licence directory 1985/Annuaire des permis de pêche de l'Atlantique 1985. Can. Spec. Publ. Fish. Aquat. Sci. 79/Publ. spéc. can. sci. halieut. aquat. 79: 931 p.
- Anonymous. 1985. Technological survey in the field of net and rope materials. Can. Transl. Fish. Aquat. Sci. 5186: 6 p. (Translated from Danish: Dansk Fiskeriteknologisk Institut (Denmark): 5 p.)
- Anthony, V. C., and M. J. Fogarty. 1985. Environmental effects on recruitment, growth, and vulnerability of Atlantic herring (*Clupea harengus harengus*) in the Gulf of Maine region. Can. J. Fish. Aquat. Sci. 42 (Suppl.1): 158-173.
- Anthony, V. C. see Sinclair, M.
- Antia, N. J., P. J. Harrison, D. S. Sullivan, and T. Bisalputra. 1985. Influence of the insecticide Diflubenzuron (Dimilin) on the growth of marine diatoms and a harpacticoid copepod in culture. Can. J. Fish. Aquat. Sci. 42: 1272-1277.
- Antia, N. J. see Klut, M. E.
- Apostle, R., L. Kasdan, and A. Hanson. 1985. Work satisfaction and community attachment among fishermen in southwest Nova Scotia. Can. J. Fish. Aquat. Sci. 42: 256-267.
- Arfi, R. 1985. Variabilité interannuelle d'un indice d'intensité des remontées d'eau dans le secteur du cap Blanc (Mauritanie). Can. J. Fish. Aquat. Sci. 42: 1969-1978.
- Argue, A. W., R. Hilborn, R. W. Peterman, M. J. Staley et C. J. Walters. 1985. Pêches du quinnat et du coho dans le détroit de Géorgie. Bull. can. sci. halieut. aquat. 221F: 97 p.
- Argue, A. W. see Shephard, M. P.
- Armstrong, C. see Tanasichuk, R. W.
- Armstrong, R. W. 1985. The 1984 roe herring charter vessel monitoring and sampling program. Can. Ind. Rep. Fish. Aquat. Sci. 165: 86 p. (1)
- Armstrong, R. W. 1985. The 1985 roe herring charter vessel monitoring and sampling program. Can. Ind. Rep. Fish. Aquat. Sci. 166: 101 p. (1)
- Arthur, J. R., and L. Margolis. 1984. *Trichodina truttae* Mueller, 1937 (Ciliophora: Peritrichida), a common pathogenic ectoparasite of cultured juvenile salmonid fishes in British Columbia: redescription and examination by scanning electron microscopy. Can. J. Zool. 62: 1842-1848. S 3345. (1)

- Ash, E. G. M. 1984. Atlantic salmon commercial catch statistics, Newfoundland and Labrador, 1982. Can. Data Rep. Fish. Aquat. Sci. 478: 115 p. (9)
- Ash, E. G. M. *see* Moores, R. B.
- Ashfield, D., D. K. McPhail, P. McNeill, and G. J. Farmer. 1984. Chemical characteristics of selected rivers in Nova Scotia and New Brunswick during 1983. Can. Data Rep. Fish. Aquat. Sci. 489: 18 p. (8)
- Ashton, H. J., V. Haist, and D. M. Ware. 1985. Observations on abundance and diet of Pacific mackerel (*Scomber japonicus*) caught off the west coast of Vancouver Island, September 1984. Can. Tech. Rep. Fish. Aquat. Sci. 1394: 11 p. (1)
- Auerbach, M. 1912. Studies concerning the Myxosporidia of Norwegian marine fishes, and their distribution. Can. Transl. Fish. Aquat. Sci. 5185: 65 p. (Translated from German: Zool. Jahrb. (Syst. Oekol. Geogr. Tiere) 34: 1-50.)
- B
- Babin, J., and E. E. Prepas. 1985. Modelling winter oxygen depletion rates in ice-covered temperate zone lakes in Canada. Can. J. Fish. Aquat. Sci. 42: 239-249.
- Bagnall, A. E. *see* Bratney, J.
- Bagshaw, J. *see* Fagerlund, U. H. M.
- Bagshaw, J. W. *see* Bell, G. R.
- Bailey, J. K., and R. L. Saunders. 1984. Returns of three year-classes of sea-ranched Atlantic salmon of various river strains and strain crosses. Aquaculture 41: 259-270. S 3326 (6)
- Bakkala, R., S. Westrheim, S. Mishima, C. Zhang, and E. Brown. 1984. Distribution of Pacific cod (*Gadus macrocephalus*) in the North Pacific Ocean. Int. North Pac. Fish. Comm. Bull. 42: 111-115. S 3384. (1)
- Bakkala, R. G. *see* Foucher, R. P.
- Bal, A. K., A. C. Dey, and M. C. Hampson. 1984. Resting sporangium of *Synchytrium endobioticum*: its structure and composition of the lipids and fatty acids. Arch. Microbiol. 140: 178-182. S 3455. (9)
- Balon, E. K. *see* Mahon, R.
- Bams, R. A. 1984. Japanese-style and gravel-box incubation of chum salmon (*Oncorhynchus keta*) compared at the fry stage. Can. Tech. Rep. Fish. Aquat. Sci. 1330: 23 p. (1)
- Banoub, J. H., F. Michon, and D. H. Shaw. 1985. Formation of 3,4-di-O-acetyl-1,6-anhydro-2,7-di-O-methyl-L-glycero-D-manno-heptopyranose during methylation analysis of lipopolysaccharide cores representative of the Vibrionaceae family. Carbohydr. Res. 138: 171-175. S 3463. (9)
- Banoub, J. H. *see* Michon, F.
- Barber, F. G., J. D. Taylor, P. A. Bolduc, and T. S. Murty. 1983. Influence of ice cover on resonance phenomena in Tuktoyaktuk Harbour, p. 302-326. In T. J. McTiernan, and B. E. Demchuk (eds.) Science, technology and arctic hydrocarbon exploration: the Beaufort experience. Proc. Symp., 34th Alaska Science Conference, September 20-October 1, 1983. Whitehorse, Yukon. S 3386. (14)
- Barber, I. *see* Cass, A. J.
- Barber, I. *see* Shaw, W.
- Barica, J. *see* Mathias, J. A.
- Barnes, D. *see* Chilton, D. E.
- Barnes, R. T. *see* Chang, P. S. S.
- Baron, J. *see* Norton, S. A.
- Barss, M. S., and G. L. Williams. 1983. Alphabetical listing of fossil dinocyst species. Can. Tech. Rep. Hydrogr. Ocean Sci. 23: 41 p. (7)
- Barsukov, V. V., N. I. Litvinenko, and V. P. Serebryakov. 1984. Manual for the identification of redfish species of the North Atlantic and adjacent areas. Can. Transl. Fish. Aquat. Sci. 5168: 25 p. (Translated from Russian: USSR Ministry of Fisheries, Atlantic Scientific-Research Institute of Fisheries and Oceanography, Kaliningrad, USSR, 28 p.)
- Barton, B. A., G. S. Weiner, and C. B. Schreck. 1985. Effect of prior acid exposure on physiological responses of juvenile rainbow trout (*Salmo gairdneri*) to acute handling stress. Can. J. Fish. Aquat. Sci. 42: 710-717.
- Bason, W. H. *see* Mathur, D.
- Bates, K. *see* Boutillier, J. A.
- Bates, K. T. 1985. Review of the 1983 commercial abalone fishery in British Columbia. Can. MS Rep. Fish. Aquat. Sci. 1826: 25 p. (18)
- Bates, S. S. 1985. Sample preconditioning for measurement of fluorescence induction of chlorophyll *a* in marine phytoplankton. J.

- Plankton Res. 7: 703-714. S 3566. (7)
- Bates, S. S., A. Tessier, P. G. C. Campbell, and M. Léstourneau. 1985. Zinc-phosphorus interactions and variation in zinc accumulation during growth of *Chlamydomonas variabilis* (Chlorophyceae) in batch culture. Can. J. Fish. Aquat. Sci. 42: 86-94.
- Bazigos, G. P. see Shotton, R.
- Beacham, T. D. 1984. Age and morphology of chum salmon in southern British Columbia. Trans. Am. Fish. Soc. 113: 727-736. S 3397. (1)
- Beacham, T. D. 1984. The distribution of landings of British Columbia salmon in relation to the size of the commercial fishing fleet. IV. Chinook salmon. Can. Tech. Rep. Fish. Aquat. Sci. 1292: 71 p. (1)
- Beacham, T. D. 1984. The distribution of landings of British Columbia salmon in relation to the size of the commercial fishing fleet, 1967-1981. V. Coho salmon. Can. Tech. Rep. Fish. Aquat. Sci. 1304: 71 p. (1)
- Beacham, T. D. 1984. Distribution of landings of Pacific salmon by the commercial fleet in British Columbia, 1951-1982. Can. MS Rep. Fish. Aquat. Sci. 1784: 38 p. (1)
- Beacham, T. D. 1985. Meristic and morphometric variation in pink salmon (*Oncorhynchus gorbuscha*) in southern British Columbia and Puget Sound. Can. J. Zool. 63: 366-372. S 3438. (1)
- Beacham, T. D., and B. V. Bernard. 1984. The distribution of landings of British Columbia salmon in relation to the size of the commercial fishing fleet, VI. Summary. Can. Tech. Rep. Fish. Aquat. Sci. 1311: 71 p. (1)
- Beacham, T. D., and C. B. Murray. 1985. Effect of female size, egg size, and water temperature on developmental biology of chum salmon (*Oncorhynchus keta*) from the Nitinat River, British Columbia. Can. J. Fish. Aquat. Sci. 42: 1755-1765.
- Beacham, T. D., and C. B. Murray. 1985. Variation in length and body depth of pink salmon (*Oncorhynchus gorbuscha*) and chum salmon (*O. keta*) in southern British Columbia. Can. J. Fish. Aquat. Sci. 42: 312-319.
- Beacham, T. D., F. C. Withler, and R. B. Morley. 1985. Effect of egg size on incubation time and alevin and fry size in chum salmon (*Oncorhynchus keta*) and coho salmon (*Oncorhynchus kisutch*). Can. J. Zool. 63: 847-850. S 3471. (1)
- Beacham, T. D., and R. E. Withler. 1985. Heterozygosity and morphological variability of chum salmon (*Oncorhynchus keta*) in southern British Columbia. Heredity 54: 313-322. S 3466. (1)
- Beacham, T. D., and R. E. Withler. 1985. Heterozygosity and morphological variability of pink salmon (*Oncorhynchus gorbuscha*) from southern British Columbia and Puget Sound. Can. J. Genet. Cytol. 27: 571-579. S 3561. (1)
- Beacham, T. D., R. E. Withler, and A. P. Gould. 1985. Biochemical genetic stock identification of chum salmon (*Oncorhynchus keta*) in southern British Columbia. Can. J. Fish. Aquat. Sci. 42: 437-448.
- Beacham, T. D., R. E. Withler, and A. P. Gould. 1985. Biochemical genetic stock identification of pink salmon (*Oncorhynchus gorbuscha*) in southern British Columbia and Puget Sound. Can. J. Fish. Aquat. Sci. 42: 1474-1483.
- Beacham, T. D., R. E. Withler, A. P. Gould, and M. K. Farwell. 1985. Biochemical genetic stock compositions of chum salmon fisheries in southern British Columbia, 1981-1983. Can. Tech. Rep. Fish. Aquat. Sci. 1356: 23 p. (1)
- Beames, R. M. see Richardson, N. L.
- Beamish, R. J., and G. A. McFarlane. 1985. Annulus development on the second dorsal spine of the spiny dogfish (*Squalus acanthias*) and its validity for age determination. Can. J. Fish. Aquat. Sci. 42: 1799-1805.
- Beamish, R. J. see Cass, A. J.
- Bean, D. J. see Culver, D. A.
- Beaty, K. G. 1984. Hydrometeorological data for the Experimental Lakes Area, northwestern Ontario, 1979 to 1981. Can. Data Rep. Fish. Aquat. Sci. 480: 146 p. (4)
- Beck, P. C. see Dawe, E. G.
- Beder, J. H. see Mangel, M.
- Béland, P. see Carter, P.
- Bell, G. R., and J. W. Bagshaw. 1985. Observations on the fate of experimentally induced wounds on adult chinook salmon in sea water. Can. Tech. Rep. Fish. Aquat. Sci. 1369: 49 p. (1)
- Bell, G. R., and G. E. Hoskins. 1985. Absence of the lobster pathogen *Aerococcus viridans* in Dungeness crabs (*Cancer magister*) taken from Vancouver harbor, British Columbia. Aquaculture 47: 263-265. S 3557. (1)



- Bell, G. R., and G. S. Traxler. 1985. First record of viral erythrocytic necrosis and *Ceratomyxa shasta* Noble, 1950 (Myxozoa: Myxosporidia) in feral pink salmon (*Oncorhynchus gorbuscha* Walbaum). J. Wildl. Dis. 21: 169-171. S 3474. (1)
- Belyayeva, T. V. 1980. Phytoplankton in the vicinity of the "Severnyi polyus-22" drifting station. Can. Transl. Fish. Aquat. Sci. 5138: 13 p. (Translated from Russian: Biologiya Tsentral'nogo Arkticheskogo Basseina, Nauka (Science) Press, Moscow, U.S.S.R., p. 113-142.)
- Bence, J. R. see Cooper, S. D.
- Beninger, P. G. see Elner, R. W.
- Bennett, A. S. see Ruddick, B. R.
- Bennett, A. S. see Smith, P. C.
- Bennett, A. S. see Tang, C. L.
- Benoit, J. R., and J. C. H. Mungall. 1983. Proceedings of the 1982 Grand Banks current workshop. Can. Tech. Rep. Hydrogr. Ocean Sci. 28: 43 p. (7)
- Berg, L., and T. G. Northcote. 1985. Changes in territorial, gill-flaring, and feeding behavior in juvenile coho salmon (*Oncorhynchus kisutch*) following short-term pulses of suspended sediment. Can. J. Fish. Aquat. Sci. 42: 1410-1417.
- Berg, T. see Gill, J. A.
- Bergmann, M. A., and H. E. Welch. 1985. Spring meltwater mixing in small arctic lakes. Can. J. Fish. Aquat. Sci. 42: 1789-1798.
- Bergmann, M. A. see Welch, H. E.
- Berkson, J. M., and D. P. DeMaster. 1985. Use of pup counts in indexing population changes in pinnipeds. Can. J. Fish. Aquat. Sci. 42: 873-879.
- Berland, B. see Margolis, L.
- Berman, S. S. see Bewers, J. M.
- Bernal, P. see Sinclair, M.
- Bernard, B. V. see Beacham, T. D.
- Bernatchez, L., and J. J. Dodson. 1985. Influence of temperature and current speed on the swimming capacity of lake whitefish (*Coregonus clupeaformis*) and cisco (*C. artedii*). Can. J. Fish. Aquat. Sci. 42: 1522-1529.
- Bernstein, B. B. see Mahon, R.
- Bertheussen, B. A. 1982. Economic management of fish plants. An investigation on the use and advantage of various management tools. Can. Transl. Fish. Aquat. Sci. 5130: 7 p. (Translated from Norwegian: Fiskeriteknologisk Forskningsinstitutt Rapport, Tromsø, Norway: 52 p. Table of contents, summary and conclusions only.)
- Best, C. D. see Malison, J. A.
- Bevelhimer, M. S., R. A. Stein, and R. F. Carline. 1985. Assessing significance of physiological differences among three esocids with a bioenergetics model. Can. J. Fish. Aquat. Sci. 42: 57-69.
- Bewers, J. M., P. A. Yeats, S. Westerlund, B. Magnusson, D. Schmidt, H. Zehle, S. S. Berman, A. Myktyuk, J. C. Duinker, R. F. Nolting, R. G. Smith, and H. L. Windom. 1985. An intercomparison of seawater filtration procedures. Mar. Pollut. Bull. 16: 277-281. S 3488. (7)
- Bewers, J. M. see Yeats, P. A.
- Bias, R. 1981. Cadmium uptake rates in euryhaline amphipods of the Elbe estuary. Experiments with *Corophium volutator* (Pallas) (Amphipoda, Corophiidae). Can. Transl. Fish. Aquat. Sci. 5147: 33 p. (Translated from German: Arch. Hydrobiol. Suppl. 61(1/2): 84-152. Sections 1.3, 2.3, 3.1.1.2, 3.1.3.2-3.1.3.3, and 3.2.3 only translated.)
- Bienfang, P. K. see Laws, E. A.
- Bierhuizen, J. F. H., and E. E. Prepas. 1985. Relationship between nutrients, dominant ions, and phytoplankton standing crop in prairie saline lakes. Can. J. Fish. Aquat. Sci. 42: 1588-1594.
- Bigg, M. A. 1984. Sighting and kill data for the Steller sea lion (*Eumetopias jubatus*) and California sea lion (*Zalophus californianus*) in British Columbia, 1892-1982, with some records from Washington and southeastern Alaska. Can. Data Rep. Fish. Aquat. Sci. 460: 191 p. (1)
- Bigg, M. A. 1985. Status of the Steller sea lion (*Eumetopias jubatus*) and California sea lion (*Zalophus californianus*) in British Columbia. Can. Spec. Publ. Fish. Aquat. Sci. 77: 20 p.
- Bigg, M. A., and I. Fawcett. 1985. Two biases in diet determination of northern fur seals (*Callorhinus ursinus*), p. 284-291. In J. R. Beddington, R. J. H. Beverton, and D. M. Lavigne (eds.) Marine mammals and fisheries. George Allen & Unwin, London. S 3534. (1)
- Bijsterveld, L., M. James, and B. Moore. 1985.

- Recreational mail surveys, 1983 - Tidal Sportfishing Diary Program and Visitors Sportfishing Survey. Can. MS Rep. Fish. Aquat. Sci. 1801: 56 p. (12)
- Billard, A. *see* Farmer, P.
- Bilton, H. T. 1984. The incidence of regenerated scales among Fraser River and Skeena River sockeye salmon (*Oncorhynchus nerka*). Can. MS Rep. Fish. Aquat. Sci. 1783: 7 p. (1)
- Bilton, H. T. 1984. Variation in scales sampled from different body areas of sockeye salmon yearlings (*Oncorhynchus nerka*). Can. Tech. Rep. Fish. Aquat. Sci. 1297: 7 p. (1)
- Bilton, H. T. 1985. The body-scale relationship for adult sockeye (*Oncorhynchus nerka*), pink (*O. gorbuscha*), chum salmon (*O. keta*) and chinook salmon (*O. tshawytscha*). Can. Tech. Rep. Fish. Aquat. Sci. 1353: 19 p. (1)
- Bilton, H. T. 1985. Variation in scales sampled from different body areas of adult pink salmon. Can. Tech. Rep. Fish. Aquat. Sci. 1360: 15 p. (1)
- Bilton, H. T., R. B. Morley, A. S. Coburn, and D. Brouwer. 1984. Time and size at release experiment: four releases of three size categories of juvenile chinook salmon from the Quinsam Hatchery in the spring of 1983. Can. Data Rep. Fish. Aquat. Sci. 463: 23 p. (1)
- Bilton, H. T., R. B. Morley, A. S. Coburn, and J. Van Tyne. 1984. The influence of time and size at release of juvenile coho salmon (*Oncorhynchus kisutch*) on returns at maturity; results of releases from Quinsam River Hatchery, B.C., in 1980. Can. Tech. Rep. Fish. Aquat. Sci. 1306: 98 p. (1)
- Bilton, H. T. *see* Fagerlund, U. H. M.
- Birch, M. *see* Serbic, G.
- Birch, J. R., D. B. Fissel, A. B. Cornford, and H. Melling. 1984. Arctic data compilation and appraisal. Volume 7. Canada Basin-Arctic Ocean: physical oceanography - temperature, salinity, currents and water levels. Can. Data Rep. Hydrogr. Ocean Sci. 5(7): 642 p. (14)
- Birch, J. R., E. C. Luscombe, D. B. Fissel, and L. F. Giovando. 1985. West coast data inventory and appraisal. Volume 1. Dixon Entrance, Hecate Strait, Queen Charlotte Sound and adjoining B.C. coastal waters: physical oceanography - temperature, salinity, currents, water levels and waves, 1903 through 1984. Can. Data Rep. Hydrogr. Ocean Sci. 37(1): Part 1, 302 p., Part 2, 265 p. (14)
- Birtwell, I. K., G. F. Hartman, B. Anderson, D. J. McLeay, and J. G. Malick. 1984. A brief investigation of Arctic grayling (*Thymallus arcticus*) and aquatic invertebrates in the Minto Creek drainage, Mayo, Yukon Territory: an area subjected to placer mining. Can. Tech. Rep. Fish. Aquat. Sci. 1287: 57 p. (3)
- Birtwell, I. K., M. Wood, and D. K. Gordon. 1984. Fish diets and benthic invertebrates in the estuary of the Somass River, Port Alberni, British Columbia. Can. MS Rep. Fish. Aquat. Sci. 1799: 49 p. (3)
- Birtwell, I. K. *see* Macdonald, J. S.
- Birtwell, I. K. *see* Nassichuk, M. D.
- Bisalputra, T. *see* Antia, N. J.
- Bisalputra, T. *see* Klut, M. E.
- Bisson, M. *see* Campbell, P. G. C.
- Blackmun, G. J., B. V. Lukyn, W. E. McLean, and D. Ewart. 1985. Quinsam watershed study: 1983. Can. MS Rep. Fish. Aquat. Sci. 1832: 65 p. (12)
- Blake, G. M. *see* Norton, S. A.
- Blakeney, C. P. *see* Syvitski, J. P. M.
- Blaxter, J. H. S. 1985. The herring: a successful species? Can. J. Fish. Aquat. Sci. 42(Suppl.1): 21-30.
- Bogomolnaya, A. *see* Yaron, Z.
- Boisclair, D., and W. C. Leggett. 1985. Rates of food exploitation by littoral fishes in a mesotrophic north-temperate lake. Can. J. Fish. Aquat. Sci. 42: 556-566.
- Bolduc, P.-A., H. A. C. Jones, and P. Erwin. 1985. The use of a Data Base Management System for national ocean data archiving in Canada, p. 135-141. In Proc. of 1985 Symposium Ocean Data: Sensor-to-User, May 1-3, 1985, New Orleans, LA. S 3498. (10)
- Bolduc, P. A. *see* Barber, F. G.
- Bolduc, P. A. *see* Tait, B. J.
- Bond, W. A., and R. N. Erickson. 1985. Life history studies of anadromous coregonid fishes in two freshwater lake systems on the Tuktoyaktuk Peninsula, Northwest Territories. Can. Tech. Rep. Fish. Aquat. Sci. 1336: 61 p. (4)
- Borgmann, U. 1985. Predicting the effects of toxic substances on pelagic ecosystems. Sci. Total Environ. 44: 111-121. S 3492. (11)
- Borgmann, U., and C. C. Charlton. 1984. Copper

- complexation and toxicity to *Daphnia* in natural waters. J. Great Lakes Res. 10: 393-398. S 3390. (11)
- Borstad, G. A. 1985. Water colour and temperature in the southern Beaufort Sea: remote sensing in support of ecological studies of the bowhead whales. Can. Tech. Rep. Fish. Aquat. Sci. 1350: 68 p. (4)
- Borstad, G. A., H. R. Edel, J. F. Gower, and A. B. Hollinger. 1985. Analysis of test and flight data from the fluorescence line imager. Can. Spec. Publ. Fish. Aquat. Sci. 83: 38 p.
- Botta, J. R., E. A. Byrne, and B. E. Squires. 1985. Utilization of Atlantic cod (*Gadus morhua*) judged to have "blackberry" odor. Can. Tech. Rep. Fish. Aquat. Sci. 1383: 11 p. (9)
- Bottom, D. see Neilson, J. D.
- Bouchard, R. see Coulombe, F.
- Boucherle, M. M. see Culver, D. A.
- Boudreau, P. R. see Dickie, L. M.
- Bougie, R. see Campbell, P. G. C.
- Bourgeois, C. E., and I-H. Ni. 1984. Metazoan parasites of Northwest Atlantic redfishes (*Sebastes* spp.). Can. J. Zool. 62: 1879-1885. S 3457. (9)
- Bourget, E. see Fréchette, M.
- Bourne, N. 1984. Clam predation by scoter ducks in the Strait of Georgia, British Columbia, Canada. Can. Tech. Rep. Fish. Aquat. Sci. 1331: 17 p. (1)
- Boutillier, J. A., W. Carolsfeld, P. A. Breen, S. Farlinger, and K. Bates. 1985. Abalone resurvey in the south-east Queen Charlotte Islands, July 1984. Can. MS Rep. Fish. Aquat. Sci. 1818: 87 p. (1)
- Bower, S. M. 1985. *Ceratomyxa shasta* (Myxozoa: Myxosporea) in juvenile chinook salmon (*Oncorhynchus tshawytscha*): experimental transmission and natural infections in the Fraser River, British Columbia. Can. J. Zool. 63: 1737-1740. S 3556. (1)
- Bower, S. M., and L. Margolis. 1984. Detection of infection and susceptibility of different Pacific salmon stocks (*Oncorhynchus* spp.) to the haemoflagellate *Cryptobia salmositica*. J. Parasit. 70: 273-278. S 3331. (1)
- Bower, S. M., and L. Margolis. 1984. Distribution of *Cryptobia salmositica*, a haemoflagellate of fishes, in British Columbia and the seasonal pattern of infection in a coastal river. Can. J. Zool. 62: 2512-2518. S 3406. (1)
- Bower, S. M., and L. Margolis. 1985. Effects of temperature and salinity on the course of infection with the haemoflagellate *Cryptobia salmositica* in juvenile Pacific salmon, *Oncorhynchus* spp. J. Fish Dis. 8: 25-33. S 3441. (1)
- Bower, S. M., and L. Margolis. 1985. Microfiltration and ultraviolet irradiation to eliminate *Ceratomyxa shasta* (Myxozoa: Myxosporea), a salmonid pathogen, from Fraser River water, British Columbia. Can. Tech. Rep. Fish. Aquat. Sci. 1364: 11 p. (1)
- Bower, S. M., L. Margolis, and R. J. MacKay. 1985. Potential usefulness of chlorine for controlling Pacific salmon leeches, *Piscicola salmositica*, in hatcheries. Can. J. Fish. Aquat. Sci. 42: 1986-1993.
- Bower, S. M. see Sloan, N. A.
- Bowles, N. D., H. W. Paerl, and J. Tucker. 1985. Effective solvents and extraction periods employed in phytoplankton carotenoid and chlorophyll determinations. Can. J. Fish. Aquat. Sci. 42: 1127-1131.
- Boyce, N. P. 1985. Ultrasound imaging used to detect cysts of *Henneguya salminicola* (Protozoa: Myxozoa) in the flesh of whole Pacific salmon. Can. J. Fish. Aquat. Sci. 42: 1312-1314.
- Boylan, C. W. see Stevenson, R. J.
- Bradley, R. W., and J. B. Sprague. 1985. The influence of pH, water hardness, and alkalinity on the acute lethality of zinc to rainbow trout (*Salmo gairdneri*). Can. J. Fish. Aquat. Sci. 42: 731-736.
- Bratney, J., and A. Campbell. 1985. Occurrence of *Histiobdella homari* (Annelida: Polychaeta) on the American lobster in the Canadian Maritimes. Can. J. Zool. 63: 392-395. S 3440. (6)
- Bratney, J., A. Campbell, A. E. Bagnall, and L. S. Uhazy. 1985. Geographic distribution and seasonal occurrence of the nemertean *Pseudocarcinonemertes homari* on the American lobster, *Homarus americanus*. Can. J. Fish. Aquat. Sci. 42: 360-367.
- Bratney, J., R. W. Elner, L. S. Uhazy, and A. E. Bagnall. 1985. Metazoan parasites and commensals of five crab (*Brachyura*) species from eastern Canada. Can. J. Zool. 63: 2224-2229. S 3569. (6)
- Braund, J. see Linsey, G. A.

- Brazeau-Carrier, D. *see* Chadwick, E. M. P.
- Breen, P. A. *see* Boutillier, J. A.
- Br  thes, J.-C. F. *see* Coulombe, F.
- Brett, J. R. (ed.) 1985. Proceedings of the Symposium on the Biological Characteristics of Herring and Their Implication for Management. Can. J. Fish. Aquat. Sci. 42 (Suppl.1): 1-278.)
- Brett, J. R. *see* Kreiberg, H.
- Brinkhurst, R. O., and M. J. Wetzel. 1984. Aquatic Oligochaeta of the World: Supplement. A catalogue of new freshwater species, descriptions, and revisions. Can. Tech. Rep. Hydrogr. Ocean Sci. 44: 101 p. (14)
- Brinkhurst, R. O. *see* Juniper, S. K.
- Brodie, P. F. 1984. A surface area or thermal index for marine mammal energetic studies. Acta Zool. Fennica 172: 153-155. S 3451. (7)
- Brodie, P. F. *see* Addison, R. F.
- Brouard, D. *see* Lachance, M.
- Brouwer, D. *see* Bilton, H. T.
- Brown, E. *see* Bakkala, R.
- Brown, E. H. Jr. *see* Eck, G. W.
- Brown, E. H. Jr. *see* Henderson, B. A.
- Brown, L. M. *see* Wehr, J. D.
- Brown, T. J., R. F. Clarke, and B. A. Kask. 1984. Meiofauna sled samples from Campbell River estuary and Discovery Passage 1982 - calanoid copepod species identification. Can. Data Rep. Fish. Aquat. Sci. 483: 22 p. (1)
- Brown, T. J., and B. A. Kask. 1984. 1983 Campbell River miller net samples. Can. Data Rep. Fish. Aquat. Sci. 471: 73 p. (1)
- Brown, T. J., and B. A. Kask. 1985. 1984 Campbell River zooplankton samples. Can. Data Rep. Fish. Aquat. Sci. 516: 69 p. (1)
- Brown, T. J., B. A. Kask, B. D. Chang, M. Kotyk, C. D. McAllister, J. S. Macdonald, and C. D. Levings. 1984. Salmonid catch-data from Campbell River and Discovery Passage, 1984. Can. Data Rep. Fish. Aquat. Sci. 497: 79 p. (1)
- Brown, T. J. *see* Kask, B. A.
- Brown, T. J. *see* Kotyk, M. S.
- Brownlee, M. J., E. R. Mattice, and C. D. Levings. 1984. The Campbell River Estuary: a report on the design, construction and preliminary follow-up study findings of intertidal marsh islands created for purposes of estuarine rehabilitation. Can. MS Rep. Fish. Aquat. Sci. 1789: 54 p. (12)
- Bruce-Allen, L. J., and J. R. Geraci. 1985. Wound healing in the bottlenose dolphin (*Tursiops truncatus*). Can. J. Fish. Aquat. Sci. 42: 216-228.
- Bruns, D. A. *see* Minshall, G. W.
- Brunskill, G. J., and P. Wilkinson. 1985. Mass balance of uranium-series nuclides in streams and Lake 239 of the Experimental Lakes Area, Ontario, Canada. Verh. Internat. Verein. Limnol. 22: 2469. S 3468. (4)
- Brussard, P. F. *see* Wright, J.
- Buckley, J. *see* Dadswell, M. J.
- Burd, A. C. 1985. Recent changes in the central and southern North Sea herring stocks. Can. J. Fish. Aquat. Sci. 42(Suppl.1): 192-206.
- Burger, C. V., R. L. Wilmot, and D. B. Wangaard. 1985. Comparison of spawning areas and times for two runs of chinook salmon (*Oncorhynchus tshawytscha*) in the Kenai River, Alaska. Can. J. Fish. Aquat. Sci. 42: 693-700.
- Burke, M. *see* Chilton, D. E.
- Burns, B. G., P. J. Ke, D. C. Sloan, W. K. Rodman, C. D. MacGregor, and A. J. Hebda. 1985. Comparative evaluations of shell, block, flake and slush ice in terms of workability, physical characteristics and cooling effects on fish. (A) slush ice made from salt water, (B) shell, block and flake ice. Can. Ind. Rep. Fish. Aquat. Sci. 159: 52 p. (8)
- Burrage, D. J. *see* Smith, T. G.
- Burridge, L. E. *see* Zitko, V.
- Burt, M. D. B. *see* McGladdery, S. E.
- Burton, T. M., R. M. Stanford, and J. W. Allan. 1985. Acidification effects on stream biota and organic matter processing. Can. J. Fish. Aquat. Sci. 42: 669-675.
- Burton, W., J. F. Flannagan, and D. G. Cobb. 1985. Description and evaluation of a new, pneumatically operated Ekman-type grab. Can. Tech. Rep. Fish. Aquat. Sci. 1332: 8 p. (4)
- Butorina, T. E. 1975. The dynamics of the parasitic fauna of different forms of the Arctic char *Salvelinus alpinus* L. in the basin of Lake Azabach'e. Can. Transl. Fish.

- Aquat. Sci. 5135: 22 p. (Translated from Russian: Parazitologiya 9(3): 237-246.)
- Byrne, E. A. *see* Botta, J. R.
- C
- Caddy, J. F., T. Amaratunga, M. J. Dadswell, T. Edelstein, L. E. Linkletter, B. R. McMullin, A. B. Stasko, and H. W. van de Poll. 1977 (Revised 1984). 1975 Northumberland Strait Project, Part I: benthic fauna, flora, demersal fish, and sedimentary data. Fish. Mar. Serv. MS Rep. 1431 (Revised): 54 p. (6)
- Cahoon, P. *see* Walters, C. J.
- Cairns, J. Jr. *see* Peters, G. T.
- Calvert, W., and I. Stirling. 1985. Winter distribution of ringed seals (*Phoca hispida*) in the Barrow Strait area, Northwest Territories, determined by underwater vocalizations. Can. J. Fish. Aquat. Sci. 42: 1238-1243.
- Calvert, W. *see* Kingsley, M. C. S.
- Campana, S. E., and J. D. Neilson. 1985. Microstructure of fish otoliths. Can. J. Fish. Aquat. Sci. 42: 1014-1032.
- Campbell, A. 1985. Application of a yield and egg-per-recruit model to the lobster fishery in the Bay of Fundy. North Am. J. Fish. Manage. 5: 91-104. S 3428. (6)
- Campbell, A., and A. B. Stasko. 1985. Movements of tagged American lobsters, *Homarus americanus*, off southwestern Nova Scotia. Can. J. Fish. Aquat. Sci. 42: 229-238.
- Campbell, A. *see* Bratney, J.
- Campbell, A. *see* Elner, R. W.
- Campbell, A. *see* Uhazy, L. S.
- Campbell, J. A., and P. A. Yeats. 1984. Dissolved chromium in the St. Lawrence Estuary. Estuar. Coast. Shelf Sci. 19: 513-522. S 3381. (7)
- Campbell, P. G. C., and P. M. Stokes. 1985. Acidification and toxicity of metals to aquatic biota. Can. J. Fish. Aquat. Sci. 42: 2034-2049.
- Campbell, P. G. C., A. Tessier, M. Bisson, and R. Bougie. 1985. Accumulation of copper and zinc in the yellow water lily, *Nuphar variegatum*: relationships to metal partitioning in the adjacent lake sediments. Can. J. Fish. Aquat. Sci. 42: 23-32.
- Campbell, P. G. C. *see* Bates, S. S.
- Campton, D. E., and F. M. Utter. 1985. Natural hybridization between steelhead trout (*Salmo gairdneri*) and coastal cutthroat trout (*Salmo clarki clarki*) in two Puget Sound streams. Can. J. Fish. Aquat. Sci. 42: 110-119.
- Carder, G. W., and G. Low. 1985. Data from the commercial fishery for Arctic charr, *Salvelinus alpinus* (Linnaeus), in the Cambridge Bay and Rankin Inlet areas, Northwest Territories, 1983-84. Can. Data Rep. Fish. Aquat. Sci. 519: 26 p. (4)
- Carignan, R. 1985. Nutrient dynamics in a littoral sediment colonized by the submersed macrophyte *Myriophyllum spicatum*. Can. J. Fish. Aquat. Sci. 42: 1303-1311.
- Carline, R. F. *see* Bevelhimer, M. S.
- Carolsfeld, W. *see* Boutillier, J. A.
- Carroll, R. J. *see* Reish, R. L.
- Carroll, R. J. *see* Ruppert, D.
- Carscadden, J. E. *see* Whitehead, H.
- Carter, E. W. *see* Leaman, B. M.
- Carter, P. et P. Béland. 1984. L'aquaculture marine au Québec. Rapp. tech. can. sci. halieut. aquat. 1315F: 85 p. (15)
- Casey, J. G., H. L. Pratt Jr., and C. E. Stillwell. 1985. Age and growth of the sandbar shark (*Carcharhinus plumbeus*) from the western North Atlantic. Can. J. Fish. Aquat. Sci. 42: 963-975.
- Casillas, E. *see* Rhodes, L.
- Cass, A. *see* Shaw, W.
- Cass, A. J., R. J. Beamish, and M. S. Smith. 1984. Study of the biology of lingcod off the west coast of Vancouver Island, M/V Arctic Harvester, November 22-December 2, 1977. Can. Data Rep. Fish. Aquat. Sci. 461: 73 p. (1)
- Cass, A. J., G. A. McFarlane, K. Rutherford, and I. Barber. 1984. Lingcod tagging study in the Strait of Georgia, November 1982-March 1983. Can. MS Rep. Fish. Aquat. Sci. 1791: 49 p. (1)
- Cass, A. J. *see* Richards, L. J.
- Castell, J. D. *see* Desjardins, L. M.
- Castell, J. D. *see* Kean, J. C.
- Cederholm, C. J., and N. P. Peterson. 1985. The retention of coho salmon (*Oncorhynchus kisutch*) carcasses by organic debris in small



- streams. Can. J. Fish. Aquat. Sci. 42: 1222-1225.
- Chadwick, E. M. P., D. Brazeau-Carrier, and C. E. Léger. 1985. Historical catches of Atlantic salmon (*Salmo salar*) at four sport fishing lodges on Restigouche River, N.B. Can. Tech. Rep. Fish. Aquat. Sci. 1362: 27 p. (17)
- Chadwick, E. M. P. see Evans, G. T.
- Chagnon, Y. C. see Leclerc, J.
- Chaisson, D. R., and T. W. Rowell. 1985. Distribution, abundance, population structure, and meat yield of the ocean quahog (*Arctica islandica*) and Stimpson's surf clam (*Spisula polynyma*) on the Scotian Shelf and Georges Bank. Can. Ind. Rep. Fish. Aquat. Sci. 155: 125 p. (8)
- Chalanchuk, S. M. 1984. Aging a population of the white sucker, *Catostomus commersoni*, by the fin-ray method. Can. Tech. Rep. Fish. Aquat. Sci. 1321: 16 p. (4)
- Chalanchuk, S. M. 1985. Recruitment, growth, and condition of a population of the white sucker, *Catostomus commersoni*, in Lake 223, an experimentally acidified lake. Can. Tech. Rep. Fish. Aquat. Sci. 1396: 18 p. (4)
- Chalmers, D. D., and D. Haase. 1985. Review of the 1983-84 British Columbia herring fishery and spawn abundance. Can. Ind. Rep. Fish. Aquat. Sci. 163: 68 p. (1)
- Chalmers, D. D., R. D. Humphries, and V. Miller. 1985. Review of the 1981-82 British Columbia herring fishery and spawn abundance. Can. Ind. Rep. Fish. Aquat. Sci. 161: 65 p. (1)
- Chalmers, D. D., and V. Miller. 1985. Review of the 1982-83 British Columbia herring fishery and spawn abundance. Can. Ind. Rep. Fish. Aquat. Sci. 162: 59 p. (1)
- Chambers, P. A., and J. Kalff. 1985. Depth distribution and biomass of submersed aquatic macrophyte communities in relation to Secchi depth. Can. J. Fish. Aquat. Sci. 42: 701-709.
- Champagne, V. E. see Smith, P. C.
- Chang, B. D. see Brown, T. J.
- Chang, B. D. see Kotyk, M. S.
- Chang, P. S. S., D. F. Malley, W. J. Findlay, and R. T. Barnes. 1984. Zooplankton in Lake 226, Experimental Lakes Area, northwestern Ontario, 1971-1978. Can. Data Rep. Fish. Aquat. Sci. 484: 208 p. (4)
- Chappuis, P. A. 1939. Notes on the natural history of *Eudontomyzon danfordi* Regan. Can. Transl. Fish. Aquat. Sci. 5173: 28 p. (Translated from German: Arch. Hydrobiol. 34: 645-658.)
- Charette, J.-Y. see Gibson, J. J.
- Charles, A. T. 1985. Nonlinear costs and optimal fleet capacity in deterministic and stochastic fisheries. Math. Biosci. 73: 271-299. S 3437. (12)
- Charles, A. T., and M. A. Henderson. 1985. Chum salmon (*Oncorhynchus keta*) stock reconstructions for 1970-82. Part I: Queen Charlotte Islands, north coast and central coast, British Columbia. Can. MS Rep. Fish. Aquat. Sci. 1814: 91 p. (12)
- Charles, A. T., and G. R. Munro. 1985. Irreversible investment and optimal fisheries management: a stochastic analysis. Mar. Resour. Econ. 1: 247-264. S 3408. (12)
- Charles, A. T., and W. J. Reed. 1985. A bioeconomic analysis of sequential fisheries: competition, coexistence, and optimal harvest allocation between inshore and offshore fleets. Can. J. Fish. Aquat. Sci. 42: 952-962.
- Charles, A. T. see Henderson, M. A.
- Charles, A. T. see Starr, P. J.
- Charlton, C. C. see Borgmann, U.
- Charmantier, G., M. Charmantier-Daures, and W. W. Young-Lai. 1985. Lethal and sublethal effects of potash brine on different stages of the lobster, *Homarus americanus*. Can. Tech. Rep. Fish. Aquat. Sci. 1344: 13 p. (6)
- Charmantier-Daures, M. see Charmantier, G.
- Cherry, D. S. see Peters, G. T.
- Chevalier, R., J.-P. Gerard, and C. Michel. 1981. Flumequine distribution and tissue kinetics in rainbow trout (*Salmo gairdneri* Richardson). Detection of residues. Can. Transl. Fish. Aquat. Sci. 5116: 10 p. (Translated from French: Rev. med. vet. 132(12): 831-837.)
- Chevalier, R. see Michel, C.
- Cheverie, J. C. see Johnston, C. E.
- Chilton, D. E., S. E. MacLellan, M. Burke, D. Barnes, and L. Zado. 1984. An inventory of fishes aged, from the Pacific coast commercial and research samples, by the Pacific Biological Station fish aging unit during 1982 and 1983. Can. Data Rep. Fish. Aquat. Sci. 470: 45 p. (1)
- Chow-Fraser, P., and R. Knoechel. 1985. Factors

- regulating in situ filtering rates of Cladocera. Can. J. Fish. Aquat. Sci. 42: 567-576.
- Cichocki, E. A. *see* Gardner, W. S.
- Cipriano, R. C., and S. W. Pyle. 1985. Adjuvant-dependent immunity and the agglutinin response of fishes against *Aeromonas salmonicida*, cause of furunculosis. Can. J. Fish. Aquat. Sci. 42: 1290-1295.
- Clark, K. L., and B. D. LaZerte. 1985. A laboratory study of the effects of aluminum and pH on amphibian eggs and tadpoles. Can. J. Fish. Aquat. Sci. 42: 1544-1551.
- Clarke, R. F. *see* Brown, T. J.
- Clarke, W. C., and J. E. Shelbourn. 1985. Growth and development of seawater adaptability by juvenile fall chinook salmon (*Oncorhynchus tshawytscha*) in relation to temperature. Aquaculture 45: 21-31. S 3478. (1)
- Clarke, W. C. *see* Damon, W.
- Coady, L. W., and J. M. Maidment. 1985. Publications of the Fisheries Research Branch, Northwest Atlantic Fisheries Centre, St. John's, Newfoundland - 1931 to 1984. Can. MS Rep. Fish. Aquat. Sci. 1790: 159 p. (9)
- Cobb, D. G., J. F. Flannagan, and M. K. Friesen. 1984. Emergence of Trichoptera from two streams of the Duck Mountains in west-central Manitoba, p. 75-87. In J. C. Morse (ed.) Series Entomologica, Vol. 30, Fourth International Symposium on Trichoptera, 11-16 July 1983, Clemson, SC. Dr. W. Junk Publishers, The Hague. S 3362. (4)
- Cobb, D. G. *see* Burton, W.
- Cobb, D. G. *see* Flannagan, J. F.
- Coble, D. W., G. B. Farabee, and R. O. Anderson. 1985. Comparative learning ability of selected fishes. Can. J. Fish. Aquat. Sci. 42: 791-796.
- Coburn, A. S. *see* Bilton, H. T.
- Cochrane, N. A. *see* Sameoto, D.
- Cole, L. J. *see* Ryan, P. M.
- Collas, R. *see* Michel, C.
- Cone, T. *see* Hyatt, K. D.
- Conley, D. J. *see* Schelske, C. L.
- Conley, D. J. *see* Stoermer, E. F.
- Conover, R. J., and G. F. Cota. 1985. Balance experiments with Arctic zooplankton, p. 217-236. In J. S. Gray, and M. E. Christiansen (eds.) Marine biology of polar regions and effects of stress on marine organisms. John Wiley & Sons Ltd., New York. S 3425. (7)
- Conover, R. J. *see* Paranajpe, M. A.
- Cooke, J. G. 1985. Estimation of harp seal (*Phoca groenlandica*) pup production from age samples. Can. J. Fish. Aquat. Sci. 42: 468-473.
- Cooper, J. *see* Fargo, J.
- Cooper, S. D., D. W. Smith, and J. R. Bence. 1985. Prey selection by freshwater predators with different foraging strategies. Can. J. Fish. Aquat. Sci. 42: 1720-1732.
- Coote, A. R. *see* Anderson, L. G.
- Corbet, R. L. *see* Muir, D. C. G.
- Cornett, D. D. *see* Milligan, P. A.
- Cornford, A. B. *see* Birch, J. R.
- Cornick, J. W. *see* Morrison, C. M.
- Cornwell, J. C. 1985. Sediment accumulation rates in an Alaskan arctic lake using a modified  $^{210}\text{Pb}$  technique. Can. J. Fish. Aquat. Sci. 42: 809-814.
- Cornwell, J. C. *see* Whalen, S. C.
- Cossa, D. *see* Gobeil, C.
- Cota, G. F. 1985. Photoadaptation of high Arctic ice algae. Nature 315: 219-222. S 3494. (7)
- Cota, G. F. *see* Conover, R. J.
- Côté, Y. *see* Robitaille, J. A.
- Coulombe, F., J.-C. F. Brêthes, R. Bouchard, and G. Desrosiers. 1985. Edaphic and bathymetric segregation of the spider crab, *Chionoecetes opilio* (O. Fabr.), in the southwestern Gulf of St. Lawrence. Can. Transl. Fish. Aquat. Sci. 5182: 28 p. (Translated from French: Can. J. Fish. Aquat. Sci. 42: 169-180.)
- Coulombe, F., J.-C. F. Brêthes, R. Bouchard and G. Desrosiers. 1985. Ségrégation édaphique et bathymétrique chez le crabe des neiges, *Chionoecetes opilio* (O. Fabr.), dans le sud-ouest du golfe du Saint-Laurent. Can. J. Fish. Aquat. Sci. 42: 169-180.
- Craig, P. C. 1985. Identification of sockeye salmon (*Oncorhynchus nerka*) stocks in the Stikine River based on egg size measurements. Can. J. Fish. Aquat. Sci. 42: 1696-1701.

- Cranford, P. J. see Gordon, D. C. Jr.
- Crawford, W. R. see Thomson, R. E.
- Crecco, V. A., and T. F. Savoy. 1985. Density-dependent catchability and its potential causes and consequences on Connecticut River American shad, *Alosa sapidissima*. Can. J. Fish. Aquat. Sci. 42: 1649-1657.
- Crecco, V. A., and T. F. Savoy. 1985. Effects of biotic and abiotic factors on growth and relative survival of young American shad, *Alosa sapidissima*, in the Connecticut River. Can. J. Fish. Aquat. Sci. 42: 1640-1648.
- Cruikshank, D. R. see Schindler, D. W.
- Cullen, J. J. see Lewis, M. R.
- Culp, J. M., and R. W. Davies. 1985. Responses of benthic macroinvertebrate species to manipulation of interstitial detritus in Carnation Creek, British Columbia. Can. J. Fish. Aquat. Sci. 42: 139-146.
- Culver, D. A., M. M. Boucherle, D. J. Bean, and J. W. Fletcher. 1985. Biomass of freshwater crustacean zooplankton from length-weight regressions. Can. J. Fish. Aquat. Sci. 42: 1380-1390.
- Cummins, K. W. see Minshall, G. W.
- Cushing, C. E. see Minshall, G. W.
- Cushing, D. H. 1985. Symposium review: reporter's summary. Can. J. Fish. Aquat. Sci. 42(Suppl.1): 275-278.
- Cyr, H. see Downing, J. A.
- D
- da Silva, J., and J. D. Neilson. 1985. Limitations of using otoliths recovered in scats to estimate prey consumption in seals. Can. J. Fish. Aquat. Sci. 42: 1439-1442.
- Dadaev, A. A. see Volkov, Yu.P.
- Dadswell, M. J. 1984. Status of the shortnose sturgeon, *Acipenser brevirostrum*, in Canada. Can. Field-Nat. 98: 75-79. S 3351. (6)
- Dadswell, M. J., B. D. Taubert, T. S. Squiers, D. Marchette, and J. Buckley. 1984. Synopsis of biological data on shortnose sturgeon, *Acipenser brevirostrum* LeSueur 1818. NOAA Tech. Rep. NMFS 14, FAO Fish. Synop. 140: 45 p. S 3359. (6)
- Dadswell, M. J. see Caddy, J. F.
- Dadswell, M. J. see Melvin, G. D.
- Dadswell, M. J. see Roff, J. C.
- Dadswell, M. J. see Wildish, D. J.
- Dahle, J. 1980. Mycoses in fish - a survey of the literature. Can. Transl. Fish. Aquat. Sci. 5149: 15 p. (Translated from German: Berl. Muench. Tieraerztl. Wochenschr. 93: 350-354.)
- Dalley, E. L. see Winters, G. H.
- Dalziel, F. C. see Hoskins, G. E.
- Dalziel, J. A., and P. A. Yeats. 1985. Reactive mercury in the central North Atlantic Ocean. Mar. Chem. 15: 357-361. S 3424. (7)
- Damon, W., A. Solmie, and W. C. Clarke. 1984. Meteorological observations at the Pacific Biological Station experimental fish farm 1975-1982. Can. Data Rep. Fish. Aquat. Sci. 462: 131 p. (1)
- Danish Institute of Fisheries Technology. 1983. Unloading industrial fish: a study concerning unloading methods, equipment and economy. Can. Transl. Fish. Aquat. Sci. 5163: 5 p. (Translated from Danish: Dansk. Fiskeriteknologisk Institut, 170 p. (Table of Contents and Introduction only are translated).)
- Darroze, S. see Lesel, R.
- Davenport, D. 1985. Biological observations of the foreign hake fishery for 1983. Can. MS Rep. Fish. Aquat. Sci. 1811: 15 p. (1)
- Davenport, D. see Shaw, W.
- Davidson, K., J. C. Roff, and R. W. Elner. 1985. Morphological, electrophoretic, and fecundity characteristics of Atlantic snow crab, *Chionoecetes opilio*, and implications for fisheries management. Can. J. Fish. Aquat. Sci. 42: 474-482.
- Davidson, K. G. see Roff, J. C.
- Davies, I. J. see Schindler, D. W.
- Davies, R. W. see Culp, J. M.
- Dawe, E. G., and P. C. Beck. 1985. Distribution and size of short-finned squid (*Illex illecebrosus*) larvae in the Northwest Atlantic from winter surveys in 1969, 1981 and 1982. J. Northw. Atl. Fish. Sci. 6: 43-55. S 3555. (9)
- Dawe, E. G. see Hurley, G. V.
- Dawe, E. G. see O'Connell, M. F.
- Day, K. E. see Kaushik, N. K.
- Day, K. E. see Solomon, K. R.

- de Buffrenil, V. 1982. Preliminary data on the presence of periosteal growth lines in the mandible of the harbour porpoise, *Phocoena phocoena* (L.) and their use as age indicators. Can. Transl. Fish. Aquat. Sci. 5128: 15 p. (Translated from French: Can. J. Zool. 60: 2557-2567.)
- de Grosbois, E. see Seip, H. M.
- de Nie, H. W. see Lammens, E. H. R. R.
- DeBruyn, E. R. see Shearer, J. A.
- DeClercq, D. R. see Shearer, J. A.
- Degani, G., and M. L. Gallagher. 1985. Effects of dietary 17 $\alpha$ -methyltestosterone and bovine growth hormone on growth and food conversion of slow- and normally-growing American eiders (*Anguilla rostrata*). Can. J. Fish. Aquat. Sci. 42: 185-189.
- Dehn, P. F., K. Haya, and D. E. Aiken. 1985. Adenylate energy charge, arginine phosphate and ATPase activity in juvenile *Homarus americanus* during the molt cycle. Comp. Biochem. Physiol. 81B: 629-633. S 3481. (6)
- Del Mistro, L. see Macdonald, J. S.
- Delbaere, I. L. see Lawrence, S. G.
- Delyamure, S. L., V. N. Popov, and A. N. Trashchenkov. 1980. Study of the helminth fauna of the seals of the Baltic Sea and Lake Ladoga. Can. Transl. Fish. Aquat. Sci. 5112: 7 p. (Translated from Russian: Nauchn. Dokl. Vyssh. Shk. Biol. Nauki 7: 43-45.)
- DeMaster, D. P. see Berkson, J. M.
- Demers, S. see Gosselin, M.
- Dempson, J. B. 1984. Identification of anadromous Arctic charr stocks in coastal areas of northern Labrador, p. 143-162. In L. Johnson, and B. L. Burns (eds.) Biology of the Arctic charr. Proc. International Symposium on Arctic Charr, May 1981, Winnipeg, Manitoba. Univ. Manitoba Press, Winnipeg. S 3500. (9)
- Dempson, J. B., and J. M. Green. 1985. Life history of anadromous Arctic charr, *Salvelinus alpinus*, in the Fraser River, northern Labrador. Can. J. Zool. 63: 315-324. S 3454. (9)
- Dempson, J. B., and R. K. Misra. 1984. Identification of anadromous Arctic charr (*Salvelinus alpinus*) stocks in coastal areas of northern Labrador based on a multivariate statistical analysis of meristic data. Can. J. Zool. 62: 631-636. S 3329. (8)
- Denman, K., R. Forbes, D. Mackas, S. Hill, and H. Sefton. 1985. Ocean ecology data report: British Columbia coastal waters, 29 June - 10 July 1983. Can. Data Rep. Hydrogr. Ocean Sci. 36: 77 p. (14)
- Denman, K. L. see Hill, S. H.
- Deriso, R. B., T. J. Quinn II, and P. R. Neal. 1985. Catch-age analysis with auxiliary information. Can. J. Fish. Aquat. Sci. 42: 815-824.
- Deriso, R. B. see Reish, R. L.
- Deriso, R. B. see Ruppert, D.
- Desjardins, C. see Dutil, J.-D.
- Desjardins, L. M., J. D. Castell, and J. C. Kean. 1985. Synthesis of dehydroascorbic acid by subadult lobsters (*Homarus americanus*). Can. J. Fish. Aquat. Sci. 42: 370-373.
- Desplanque C. see Gordon, D. C. Jr.
- Desrosiers, G. see Coulombe, F.
- Dey, A. C. see Bal, A. K.
- Diamond, N., and D. G. Hankin. 1985. Movements of adult female Dungeness crabs (*Cancer magister*) in northern California based on tag recoveries. Can. J. Fish. Aquat. Sci. 42: 919-926.
- Dickie, L. M., R. G. Dowd, and P. R. Boudreau. 1984. Acoustic estimates of demersal fish using a dual-beam transducer in laboratory and field. J. Acoust. Soc. Am. 76: 1175-1183. S 3336. (7)
- Dickie, L. M. see Kerr, S. R.
- Dickie, L. M. see Mallet, A. L.
- Dickie, P. M. see Li, W. K. W.
- Dickson, T. A. see Gibson, R. J.
- Dill, L. M. see Abbott, J. C.
- Dillon, P. J. see Seip, H. M.
- Director General of Fisheries. 1982. Notice from the Director General of Fisheries. Change in regulations of February 27, 1981 for an interim damage and compensation program for Norwegian fishermen due to pollution from oil activities. Can. Transl. Fish. Aquat. Sci. 5127: 7 p. (Translated from Norwegian: J 45/82, Bergen, Norway.)
- Dixon, D. G., and J. W. Hilton. 1985. Effects of available dietary carbohydrate and water temperature on the chronic toxicity of waterborne copper to rainbow trout (*Salmo*

- gairdneri*). Can. J. Fish. Aquat. Sci. 42: 1007-1013.
- Dobson, D., and B. Petrie. 1984. Long-term temperature monitoring program 1983, Newfoundland region. Can. Data Rep. Hydrogr. Ocean Sci. 21: 411 p. (7)
- Dobson, D., and B. Petrie. 1984. Long-term temperature monitoring program 1983, Scotia-Fundy, Gulf regions. Can. Data Rep. Hydrogr. Ocean Sci. 22: 406 p. (7)
- Dobson, F. 1985. Comment on "Measurement of high-frequency waves using a wave follower" by S. Tang and O. H. Shemdin. J. Geophys. Res. 90: 9203-9204. S 3546. (7)
- Dobson, F. 1985. Comment on "Measurements of wind velocity and pressure with a wave follower during MARSEN" by S. V. Hsiao and O. H. Shemdin. J. Geophys. Res. 90: 9206-9208. S 3547. (7)
- Dobson, F. W., and S. D. Smith. 1985. Estimation of solar radiation at sea, p. 525-533. In Y. Toba, and H. Mitsuyasu (eds.) The ocean surface. D. Reidel Publ. Co., Holland. S 3495. (7)
- Dobson, F. W. see Ku, L.-F.
- Dodimead, A. J. 1984. A review of some aspects of the physical oceanography of the continental shelf and slope waters off the west coast of Vancouver Island, British Columbia. Can. MS Rep. Fish. Aquat. Sci. 1733: 309 p. (1)
- Dodson, J. J. see Bernatchez, L.
- Dodson, J. J. see Henri, M.
- Dodson, J. J. see Ouellet, P.
- Dominguez, M., and M. Alcaraz. 1983. Planktonic larvae of lamellibranch mollusks from the Pontevedra Estuary, northwest Spain. Can. Transl. Fish. Aquat. Sci. 5179: 17 p. (Translated from Spanish: Invest. Pesq. (Barc.) 47(2): 345-357.)
- Donaldson, E. M., G. A. Hunter, H. M. Dye, and G. van der Kraak. 1985. Induced ovulation in Pacific salmon using LHRH analogs and salmon gonadotropin, p. 375-377. In B. Lofth, and W. N. Holmes (eds.) Current trends in comparative endocrinology. Hong Kong University Press, Hong Kong. S 3518. (3)
- Donaldson, E. M. see Fagerlund, U. H. M.
- Donaldson, E. M. see Gill, J. A.
- Donaldson, E. M. see Singh, T. P.
- Donaldson, E. M. see Solar, I. I.
- Donaldson, E. M. see Van der Kraak, G.
- Donaldson, E. M. see Yaron, Z.
- Dosanjh, B. S. see Fagerlund, U. H. M.
- Dosanjh, B. S. see Higgs, D. A.
- Dosanjh, B. S. see Markert, J. R.
- Doubleday, W. G. 1985. Managing herring fisheries under uncertainty. Can. J. Fish. Aquat. Sci. 42(Suppl.1): 245-257.
- Døving, K. B., H. Westerberg, and P. B. Johnsen. 1985. Role of olfaction in the behavioral and neuronal responses of Atlantic salmon, *Salmo salar*, to hydrographic stratification. Can. J. Fish. Aquat. Sci. 42: 1658-1667.
- Dowd, R. G. see Dickie, L. M.
- Downing, J. A., and M. R. Anderson. 1985. Estimating the standing biomass of aquatic macrophytes. Can. J. Fish. Aquat. Sci. 42: 1860-1869.
- Downing, J. A., and H. Cyr. 1985. Quantitative estimation of epiphytic invertebrate populations. Can. J. Fish. Aquat. Sci. 42: 1570-1579.
- Drinkwater, K. F. see Hargrave, B. T.
- Driscoll, C. T. see Effler, S. W.
- Duinker, J. C. see Bewers, J. M.
- Dulude, P. see Leclerc, J.
- Dumont, B. 1985. Biological changes in an alpine river, the Durance, below the Serre-Poncon Dam. Species composition 18 and 25 years after filling the reservoir. Can. Transl. Fish. Aquat. Sci. 5181: 33 p. (Translated from French: (Publisher unknown, no. of pages unavailable).)
- Dumont, P. see Provost, J.
- Dunfield, R. W. 1985. The Atlantic salmon in the history of North America. Can. Spec. Publ. Fish. Aquat. Sci. 80: 181 p.
- Dunn, J. B. see Roberge, M. M.
- Dutil, J.-D. 1984. Electrolyte changes of serum and muscle, and related mortalities in maturing *Anguilla rostrata* migrating down the St. Lawrence Estuary (Canada). Helgölander Meeresunters 37: 425-432. S 3369. (13)
- Dutil, J.-D., and R. Lallier. 1984. Testing bacterial infection as a factor involved in the mortality of catadromous eels (*Anguilla rostrata*) migrating down the St. Lawrence Estuary (Canada). Natur. can. (Rev. Ecol.



- Syst.) 111: 395-400. S 3442. (13)
- Dutil, J.-D., B. Légaré et C. Desjardins. 1985. Discrimination d'un stock de poisson, l'anguille (*Anguilla rostrata*), basée sur la présence d'un produit chimique de synthèse, le mirex. Can. J. Fish. Aquat. Sci. 42: 455-458.
- Dutil, J.-D. see Lachance, M.
- Dwiliow, A. G. see Souter, B. W.
- Dye, H. M. see Donaldson, E. M.
- Dye, H. M. see Fagerlund, U. H. M.
- Dye, H. M. see Gill, J. A.
- Dye, H. M. see Van der Kraak, G.
- E
- Eagles, M. D., D. E. Aiken, and S. L. Waddy. 1984. Effect of food quality and feeding schedule on survival, growth and development of larval American lobsters fed frozen adult brine shrimp. J. World Maricult. Soc. 15: 142-143. S 3536. (6)
- Eales, J. G. see Saunders, R. L.
- Eck, G. W., and E. H. Brown Jr. 1985. Lake Michigan's capacity to support lake trout (*Salvelinus namaycush*) and other salmonines: an estimate based on the status of prey populations in the 1970s. Can. J. Fish. Aquat. Sci. 42: 449-454.
- Edel, H. R. see Borstad, G. A.
- Edelstein, T. see Caddy, J. F.
- Effler, S. W., G. C. Schafran, and C. T. Driscoll. 1985. Partitioning light attenuation in an acidic lake. Can. J. Fish. Aquat. Sci. 42: 1707-1711.
- Ehrich, S. 1984. Fishing grounds for a possible deep-sea fishery west of the British Isles. Can. Transl. Fish. Aquat. Sci. 5183: 13 p. (Translated from German: Inf. Fischwirtsch. 31(2): 83-89.)
- El-Shaarawi, A. H., S. R. Esterby, N. D. Warry, and K. W. Kuntz. 1985. Evidence of contaminant loading to Lake Ontario from the Niagara River. Can. J. Fish. Aquat. Sci. 42: 1278-1289.
- Ellis, K., R. W. P. Nelson, and J. N. Smith. 1984. Pre-operational environmental monitoring report for the Point Lepreau, N.B., nuclear generating station - 1982. Can. Tech. Rep. Hydrogr. Ocean Sci. 43: 173 p. (7)
- Elner, R. W., P. G. Beninger, L. E. Linkletter, and S. Lanteigne. 1985. Guide to indicator fragments of principal prey taxa in the stomachs of two common Atlantic crab species: *Cancer borealis* Stimpson, 1859 and *Cancer irroratus* Say, 1817. Can. Tech. Rep. Fish. Aquat. Sci. 1403: 20 p. (6)
- Elner, R. W., C. A. Gass, and A. Campbell. 1985. Mating behavior of the Jonah crab, *Cancer borealis* Stimpson (Decapoda, Brachyura). Crustaceana 48: 34-39. S 3429. (6)
- Elner, R. W., and R. E. Lavoie. 1983. Predation on American oysters (*Crassostrea virginica* (Gmelin)) by American lobsters (*Homarus americanus* Milne-Edwards), rock crabs (*Cancer irroratus* Say), and mud crabs (*Neopanope sayi* (Smith)). J. Shellfish Res. 3: 129-134. S 3493. (6)
- Elner, R. W. see Brattey, J.
- Elner, R. W. see Davidson, K.
- Elser, J. J., and B. L. Kimmel. 1985. Nutrient availability for phytoplankton production in a multiple-impoundment series. Can. J. Fish. Aquat. Sci. 42: 1359-1370.
- Eppley, R. W. see Laws, E. A.
- Erickson, R. N. see Bond, W. A.
- Erwin, P. see Bolduc, P.-A.
- Estep, M. L. F., and S. Vigg. 1985. Stable carbon and nitrogen isotope tracers of trophic dynamics in natural populations and fisheries of the Lahontan Lake system, Nevada. Can. J. Fish. Aquat. Sci. 42: 1712-1719.
- Esterby, S. R. see El-Shaarawi, A. H.
- Evans, G. T., and J. S. Parslow. 1985. A model of annual plankton cycles. Biol. Oceanogr. 3: 327-347. S 3456. (9)
- Evans, G. T., J. C. Rice, and E. M. P. Chadwick. 1985. Patterns of growth and smolting of Atlantic salmon (*Salmo salar*) parr in a southwestern Newfoundland river. Can. J. Fish. Aquat. Sci. 42: 539-543.
- Evans, G. T. see Penney, R. W.
- Evans, G. T. see Stoecker, D. K.
- Evans, R. E., and T. J. Hara. 1985. The characteristics of the electro-olfactogram (EOG): its loss and recovery following olfactory nerve section in rainbow trout (*Salmo gairdneri*). Brain Res. 330: 65-75. S 3420. (4)
- Evelyn, T. P. T. 1984. Book review: J. H. Crosa (ed.) Bacterial and viral diseases of fish.

- Molecular studies. Fish. Res. 2: 316-318. S 3435. (1)
- Evelyn, T. P. T. 1984. Immunization against pathogenic vibrios, p. 121-150. In P. de Kinkelin (ed.) Theoretical background and practical results on immunization against infectious diseases. Symposium on Fish Vaccination, O.I.E. Fish Diseases Comm., 20-22 February, 1984, Paris, France. S 3385. (1)
- Evelyn, T. P. T., L. Prosperi-Porta, and J. E. Ketcheson. 1984. The salmonid egg as a vector of the kidney disease bacterium, *Renibacterium salmoninarum*, p. 111-117. In Acuigrup, Spain (ed.) Fish Diseases. Fourth COPRAQ Session, 26-30 October 1981, Madrid, Spain. S 3380. (1)
- Evelyn, T. P. T. see Liversidge, J.
- Evelyn, T. P. T. see Olivier, G.
- Ewart, D. see Blackmun, G. J.
- F
- Fagerlund, U. H. M., H. M. Dye, J. Sumpter, and E. M. Donaldson. 1985. Physiological changes in pink salmon (*Oncorhynchus gorbuscha*) during the spawning migration. 2. Reproductive parameters, p. 66 (abstract). In Fifth Congress of European Ichthyologists, 12-16 August, 1985, Stockholm, Sweden. S 3523. (3)
- Fagerlund, U. H. M., J. R. McBride, B. S. Dosanjh, H. T. Bilton, R. B. Morley, and J. Van Tine. 1984. Density effects on performance to release of three size groups within populations of pond-reared juvenile coho salmon. Smolts released from Quinsam Hatchery in 1983. Can. Tech. Rep. Fish. Aquat. Sci. 1337: 19 p. (3)
- Fagerlund, U. H. M., J. R. McBride, H. M. Dye, and J. Bagshaw. 1985. Physiological changes in pink salmon (*Oncorhynchus gorbuscha*) during the spawning migration. 1. Tissue structure and plasma cortisol, p. 66 (abstract). In Fifth Congress of European Ichthyologists, 12-16 August, 1985, Stockholm, Sweden. S 3522. (3)
- Falk-Petersen, S. 1985. Growth of the euphausiids *Thysanoessa inermis*, *Thysanoessa raschii*, and *Meganyctiphanes norvegica* in a subarctic fjord, North Norway. Can. J. Fish. Aquat. Sci. 42: 14-22.
- Fanning, L. P. see Roff, J. C.
- Farabee, G. B. see Coble, D. W.
- Fargo, J., R. P. Foucher, J. Cooper, and S. C. Shields. 1984. Trawl survey of juvenile flatfish in Hecate Strait by the M/V Double Decker, April 10-27, 1984. Can. Data Rep. Fish. Aquat. Sci. 486: 51 p. (1)
- Fargo, J., A. V. Tyler, J. Cooper, S. C. Shields, and S. Stebbins. 1984. Arctic Ocean assemblage survey of Hecate Strait, May 28-June 17, 1984. Can. Data Rep. Fish. Aquat. Sci. 491: 108 p. (1)
- Farlinger, S. see Boutillier, J. A.
- Farmer, G. J. see Ashfield, D.
- Farmer, P., and A. Billard. 1985. Gear damage in the Nova Scotia inshore fishery. Can. Ind. Rep. Fish. Aquat. Sci. 156: 43 p. (8)
- Farrell, M. P. see Waterhouse, J. C.
- Farwell, M. K. 1985. The chum salmon test fishery in the Fraser River: catch and effort summary, 1963 and 1965 to 1984. Can. Data Rep. Fish. Aquat. Sci. 529: 323 p. (12)
- Farwell, M. K. see Beacham, T. D.
- Fasham, M. J. R., T. Platt, B. Irwin, and K. Jones. 1985. Factors affecting the spatial pattern of the deep chlorophyll maximum in the region of the Azores Front. Prog. Oceanogr. 14: 129-165. S 3377. (7)
- Fawcett, I. see Bigg, M. A.
- Fedorenko, A. Y., and B. G. Shepherd. 1985. Mathers Creek feasibility studies: groundwater exploration 1978 to 1980, and pilot hatchery operation 1980 to 1984. Can. MS Rep. Fish. Aquat. Sci. 1817: 101 p. (12)
- Fedorenko, A. Y. see Schubert, N. D.
- Fedoseev, G. A. 1965. Feeding of the ringed seal (*Pusa hispida* Schr.). Can. Transl. Fish. Aquat. Sci. 5152: 13 p. (Translated from Russian: Izv. TINRO 59: 216-223.)
- Fee, E. J. 1984. Freshwater Institute primary production model user's guide. Can. Tech. Rep. Fish. Aquat. Sci. 1328: 36 p. (4)
- Fee, E. J. see Shearer, J. A.
- Fife, F. J. see Percy, J. A.
- Findlay, D. see Salki, A.
- Findlay, D. L. see Schindler, D. W.
- Findlay, W. J. see Chang, P. S. S.
- Firth, J. R. see Kulka, D. W.
- Fissel, D. B. see Birch, J. R.

- Flannagan, J. F., and D. G. Cobb. 1984. Production of *Hexagenia limbata* (Serville) and *H. rigida* (McDunnough) in Lake Winnipeg, Manitoba, p. 307-315. In V. Landa et al. (eds.) Proc. 4th Intern. Conf. on Ephemeroptera, 4-10 September, 1983, Bechyne, Czechoslovakia. S 3391. (4)
- Flannagan, J. F. see Burton, W.
- Flannagan, J. F. see Cobb, D. G.
- Flannagan, J. F. see Flannagan, P. M.
- Flannagan, P. M., and J. F. Flannagan. 1984. The post-glacial origin and present distribution of the mayflies (Ephemeroptera) of Manitoba, Canada, p. 149-169. In V. Landa et al. (eds.) Proc. 4th Intern. Conf. on Ephemeroptera, 4-10 September, 1983, Bechyne, Czechoslovakia. S 3389. (4)
- Fletcher, J. W. see Culver, D. A.
- Floyd, G. S. see Taylor, D. A.
- Fogarty, M. J. see Anthony, V. C.
- Forbes, R. see Denman, K.
- Foucher, R. P., R. G. Bakkala, and D. Fournier. 1984. Comparison of age frequency derived by length-frequency analysis and scale reading for Pacific cod in the North Pacific Ocean. Int. North Pac. Fish. Comm. Bull. 42: 232-242. S 3342. (1)
- Foucher, R. P., and M. G. Giudici. 1985. Landings and age compositions for Pacific cod (*Gadus macrocephalus*) from the Strait of Georgia and the Strait of Juan de Fuca, 1945-84. Can. Data Rep. Fish. Aquat. Sci. 517: 32 p. (1)
- Foucher, R. P., and S. J. Westrheim. 1984. Landing statistics used to standardize trawling effort by vessel horsepower for Pacific cod (*Gadus macrocephalus*) and its principal shelf co-inhabitants, April-September, 1960-81. Can. Data Rep. Fish. Aquat. Sci. 464: 34 p. (1)
- Foucher, R. P., and S. J. Westrheim. 1984. Numbers landed-at-age and associated standardized landing statistics for Pacific cod (*Gadus macrocephalus*) from important area-time cells off southwest Vancouver Island, and in Queen Charlotte Sound and Hecate Strait, 1956-82. Can. MS Rep. Fish. Aquat. Sci. 1775: 59 p. (1)
- Foucher, R. P. see Fargo, J.
- Foucher, R. P. see Westrheim, S. J.
- Fourbet, B. see Michel, C.
- Fournier, D. see Foucher, R. P.
- Fournier, D. see Stocker, M.
- France, R. L. 1984. Comparative tolerance to low pH of three life stages of the crayfish *Orconectes virilis*. Can. J. Zool. 62: 2360-2363. S 3404. (4)
- France, R. L. 1985. Low pH avoidance by crayfish (*Orconectes virilis*): evidence for sensory conditioning. Can. J. Zool. 63: 258-262. S 3439. (4)
- France, R. L. 1985. Relationship of crayfish (*Orconectes virilis*) growth to population abundance and system productivity in small oligotrophic lakes in the Experimental Lakes Area, northwestern Ontario. Can. J. Fish. Aquat. Sci. 42: 1096-1102.
- France, R. L., and L. Graham. 1985. Increased microsporidian parasitism of the crayfish *Orconectes virilis* in an experimentally acidified lake. Water, Air, and Soil Pollut. 26: 129-136. S 3532. (4)
- Francis, A. A. 1984. Numbers of Atlantic salmon ascending the Tobique Narrows fishway, Saint John River system, N.B., 1978-83. Can. Data Rep. Fish. Aquat. Sci. 475: 15 p. (8)
- Frank, K. T., and W. C. Leggett. 1985. Reciprocal oscillations in densities of larval fish and potential predators: a reflection of present or past predation? Can. J. Fish. Aquat. Sci. 42: 1841-1849.
- Franzin, W. G., and S. M. Harbicht. 1985. An evaluation of the relative success of naturalized brown charr, *Salvelinus fontinalis* (Mitchill), populations in South Duck River and Cowan Creek, Duck Mountain Region, Manitoba. Can. Tech. Rep. Fish. Aquat. Sci. 1370: 21 p. (4)
- Fréchette, M., and E. Bourget. 1985. Energy flow between the pelagic and benthic zones: factors controlling particulate organic matter available to an intertidal mussel bed. Can. J. Fish. Aquat. Sci. 42: 1158-1165.
- Fréchette, M., and E. Bourget. 1985. Food-limited growth of *Mytilus edulis* L. in relation to the benthic boundary layer. Can. J. Fish. Aquat. Sci. 42: 1166-1170.
- Freeland, H. J. see Lee, A. Y. P.
- Freeland, H. J. see Thomson, R. E.
- Freeman, K. R. see Mallet, A. L.
- Frez, W. A. see Gardner, W. S.
- Fried, S. M., and V. G. Wespestad. 1985.

- Productivity of Pacific herring (*Clupea harengus pallasii*) in the eastern Bering Sea under various patterns of exploitation. Can. J. Fish. Aquat. Sci. 42(Suppl.1): 181-191.
- Friesen, M. K. *see* Cobb, D. G.
- Friesen, T. G. *see* St. Aubin, D. J.
- Fulthorpe, R. R., and J. E. Paloheimo. 1985. Hypolimnetic oxygen consumption in small lakes. Can. J. Fish. Aquat. Sci. 42: 1493-1500.
- Fulton, J. D. *see* Harrison, P. J.
- Furukawa, T. *see* Iida, H.
- Furutani, A., J. W. M. Rudd, and C. A. Kelly. 1984. A method for measuring the response of sediment microbial communities to environmental perturbations. Can. J. Microbiol. 30: 1408-1414. S 3355. (4)
- Furutani, A. *see* Ramlal, P. S.
- Futer, P. G. *see* Nassichuk, M. D.
- Fyodorov, K. N. 1983. The physical nature and structure of oceanic fronts. Can. Transl. Fish. Aquat. Sci. 5129: 410 p. (Translated from Russian: Gidrometeoizdat, Publishers, Leningrad, (U.S.S.R.): 296 p.)
- G
- Gallagher, M. L. *see* Degani, G.
- Gardner, W. S., T. F. Nalepa, W. A. Frez, E. A. Cichocki, and P. F. Landrum. 1985. Seasonal patterns in lipid content of Lake Michigan macroinvertebrates. Can. J. Fish. Aquat. Sci. 42: 1827-1832.
- Garnett, C. R. (ed.) 1985. Research in fisheries contaminants and toxicology conducted by the Fisheries and Environmental Sciences Division, Fisheries Research Branch, Scotia-Fundy Region, in 1984. Can. MS Rep. Fish. Aquat. Sci. 1800: 37 p. (6)
- Garrett, C. J. R. *see* Ku, L.-F.
- Gartner-Kepkay, K. E. *see* Mallet, A. L.
- Gaskin, D. E., A. J. Read, P. F. Watts, and G. J. D. Smith. 1985. Population dispersal, size, and interactions of harbour porpoises in the Bay of Fundy and Gulf of Maine. Can. Tech. Rep. Fish. Aquat. Sci. 1291: 28 p. (10)
- Gass, C. A. *see* Elner, R. W.
- Gassmann, G., and R. Pocklington. 1984. Hydrocarbons in waters adjacent to an oil exploratory site in the western North Atlantic Ocean. Environ. Sci. Technol. 18: 869-872. S 3373. (7)
- Gavini, F. *see* Lesel, R.
- Geen, G. H. *see* Neilson, J. D.
- Geider, R. *see* Platt, T.
- Geider, R. J. *see* Smith, R. E. H.
- Gendron, L. 1985. Conversion of blade length increments into biomass production estimates in *Laminaria longicruris*. Can. J. Fish. Aquat. Sci. 42: 33-37.
- Geraci, J. R. *see* Bruce-Allen, L. J.
- Geraci, J. R. *see* St. Aubin, D. J.
- Gerard, J.-P. *see* Chevalier, R.
- Gerard, J.-P. *see* Michel, C.
- Gibson, R. J. 1985. Potential of city rivers in St. John's. Spawner 1985: 37-39. S 3560. (9)
- Gibson, R. J. 1985. The rivers in the city of St. John's - a precious heritage. The Osprey 16: 54-59. S 3530. (9)
- Gibson, R. J., and T. A. Dickson. 1984. The effects of competition on the growth of juvenile Atlantic salmon. Natur. can. (Rev. Ecol. Syst.) 111: 175-191. S 3515. (9)
- Gibson, R. J., J.-P. Thonney, and K. Hillier. 1984. An easterly extension in the known range for *Fundulus diaphanus* in Newfoundland. Natur. can. (Rev. Ecol. Syst.) 111: 213-214. S 3332. (9)
- Gibson, R. J., F. G. Whoriskey, J.-Y. Charette, and M. Winsor. 1984. The role of lakes in governing the invertebrate community and food of salmonids during the summer in a Québec boreal river. Natur. can. (Rev. Ecol. Syst.) 111: 411-427. S 3517. (9)
- Gilbertson, M. 1985. The Niagara labyrinth - the human ecology of producing organochlorine chemicals. Can. J. Fish. Aquat. Sci. 42: 1681-1692.
- Gilfillan, E. S. *see* Vandermeulen, J. H.
- Gill, J. A., J. P. Sumpter, E. M. Donaldson, H. M. Dye, L. Souza, T. Berg, J. Wypych, and K. Langley. 1985. Recombinant chicken and bovine growth hormones accelerate growth in aquacultured juvenile Pacific salmon *Oncorhynchus kisutch*. Bio/Technol. 3: 643-646. S 3539. (3)
- Gillespie, D. C. *see* Yurkowski, M.

- Gillman, D. V., and A. H. Kristofferson. 1984. Biological data on Pacific herring (*Clupea harengus pallasii*) from Tuktoyaktuk Harbour and the Liverpool Bay area, Northwest Territories, 1981 to 1983. Can. Data Rep. Fish. Aquat. Sci. 485: 22 p. (4)
- Gillman, D. V. *see* Roberge, M. M.
- Giovando, L. F. 1984. Observations of seawater temperature and salinity at British Columbia shore stations, 1982. Can. Data Rep. Hydrogr. Ocean Sci. 25: 109 p. (14)
- Giovando, L. F. 1985. Observations of seawater temperature and salinity at British Columbia shore stations, 1983. Can. Data Rep. Hydrogr. Ocean Sci. 30: 109 p. (14)
- Giovando, L. F. 1985. Observations of seawater temperature and salinity at British Columbia shore stations, 1984. Can. Data Rep. Hydrogr. Ocean Sci. 41: 102 p. (14)
- Giovando, L. F. *see* Birch, J. R.
- Girodat, D. J. *see* Manzer, J. I.
- Giudici, M. G. *see* Foucher, R. P.
- Gjernes, T. *see* Hyatt, K. D.
- Glenn, C. L., and J. A. Mathias. 1985. Circuli development on body scales of young pond-reared walleye (*Stizostedion vitreum*). Can. J. Zool. 63: 912-915. S 3487. (4)
- Gobeil, C. et D. Cossa. 1984. Profils des teneurs en mercure dans les sédiments et les eaux interstitielles du fjord du Saguenay (Québec): données acquises au cours de la période 1978-83. Rapp. tech. can. hydrogr. sci. océan. 53F: 23 p. (13)
- Gordon, D. C. Jr., P. J. Cranford, and C. Desplanque. 1985. Observations on the ecological importance of salt marshes in the Cumberland Basin, a macrotidal estuary in the Bay of Fundy. Estuarine, Coastal and Shelf Sci. 20: 205-227. S 3450. (7)
- Gordon, D. J. *see* Lacroix, G. L.
- Gordon, D. K. *see* Birtwell, I. K.
- Gordon, R. W. *see* Servizi, J. A.
- Gordon, R. W. *see* Sullivan, M. A.
- Gorrie, J. F. *see* Leslie, J. K.
- Gosselin, M., L. Legendre, S. Demers, and R. G. Ingram. 1985. Responses of sea-ice microalgae to climatic and fortnightly tidal energy inputs (Manitounuk Sound, Hudson Bay). Can. J. Fish. Aquat. Sci. 42: 999-1006.
- Gould, A. P. *see* Beacham, T. D.
- Gower, J. F. *see* Borstad, G. A.
- Graham, L. *see* France, R. L.
- Grainger, E. H. *see* Hsiao, S. I. C.
- Grant, J. 1985. A method for measuring horizontal transport of organic carbon over sediments. Can. J. Fish. Aquat. Sci. 42: 595-602.
- Gray, B. *see* Morrison, C. M.
- Green, J. M. *see* Dempson, J. B.
- Greenberg, D. A. *see* Ku, L.-F.
- Greenhalgh, R. *see* Muir, D. C. G.
- Greer, G. L. *see* Rosberg, G. E.
- Grift, N. P. *see* Muir, D. C. G.
- Grigyalis, A. 1983. Ecology and distribution of oligochaete *Potamothrix hammoniensis* Mich. Can. Transl. Fish. Aquat. Sci. 5156: 8 p. (Translated from Russian: A. Kangur (ed.) Biologiya presnovodnykh organizmov Severozapada SSSR. Gidrobiol. Issled. 14: 40-45. Institute of Zoology and Botany, Academy of Sciences of the Estonian SSR, Tallin, U.S.S.R.)
- Grima, A. P. *see* Regier, H. A.
- Gronlund, W. *see* Rhodes, L.
- Grossman, G. D. *see* Hightower, J. E.
- Gunn, C. R. *see* Sloan, N. A.

## H

- Haas, L. W. *see* Laws, E. A.
- Haase, D. *see* Chalmers, D. D.
- Habibi, H. R. *see* Lessman, C. A.
- Haegle, C. W. 1984. Herring tag returns in British Columbia for the 1983-84 herring season. Can. Data Rep. Fish. Aquat. Sci. 493: 27 p. (1)
- Haegle, C. W. 1984. Tagging of herring in British Columbia during the 1983-84 herring season. Can. Ind. Rep. Fish. Aquat. Sci. 154: 26 p. (1)
- Haegle, C. W., and J. F. Schweigert. 1984. Herring stock estimate from a diving survey of spawn in Barkley Sound in 1982, with comparisons to other estimates. Can. MS Rep. Fish. Aquat. Sci. 1798: 33 p. (1)



- Haegeler, C. W., and J. F. Schweigert. 1985. Distribution and characteristics of herring spawning grounds and description of spawning behavior. *Can. J. Fish. Aquat. Sci.* 42 (Suppl.1): 39-55.
- Haegeler, C. W., and J. F. Schweigert. 1985. Herring stock estimates from diving surveys of spawn for the west coast of Vancouver Island in 1984. *Can. MS Rep. Fish. Aquat. Sci.* 1837: 67 p. (1)
- Haegeler, C. W. *see* Schweigert, J. F.
- Haist, V., and M. Stocker. 1985. Growth and maturation of Pacific herring (*Clupea harengus pallasii*) in the Strait of Georgia. *Can. J. Fish. Aquat. Sci.* 42(Suppl.1): 138-146.
- Haist, V., M. Stocker, and J. F. Schweigert. 1985. Stock assessments for British Columbia herring in 1984 and forecasts of the potential catch in 1985. *Can. Tech. Rep. Fish. Aquat. Sci.* 1365: 53 p. (1)
- Haist, V. *see* Ashton, H. J.
- Haist, V. *see* Rosenfeld, L.
- Haist, V. *see* Stocker, M.
- Hall, M. C. *see* Wright, J.
- Halliday, R. G. *see* Pinhorn, A. T.
- Hally, A. N. *see* Jensen, J. O. T.
- Hamer, J. M. *see* Leaman, J. E.
- Hamley, J. M., and T. P. Howley. 1985. Factors affecting variability of trapnet catches. *Can. J. Fish. Aquat. Sci.* 42: 1079-1087.
- Hammill, M. O. *see* Smith, T. G.
- Hampson, M. C. *see* Bal, A. K.
- Hancock, M. J., and D. E. Marshall. 1984. Catalogue of salmon streams and spawning escapements of Sub-Districts 110 and 120 (Yukon-Arctic). *Can. Data Rep. Fish. Aquat. Sci.* 474: 233 p. (12)
- Hancock, M. J., and D. E. Marshall. 1985. Catalogue of salmon streams and spawning escapements of Statistical Area 14, Comox-Parksville. *Can. Data Rep. Fish. Aquat. Sci.* 504: 134 p. (12)
- Hancock, M. J., and D. E. Marshall. 1985. Catalogue of salmon streams and spawning escapements of Statistical Area 29, Chilliwack-Hope. *Can. Data Rep. Fish. Aquat. Sci.* 521: 132 p. (12)
- Hancock, M. J., and D. E. Marshall. 1985. Catalogue of salmon streams and spawning escapements of Statistical Area 29, Mission-Harrison. *Can. Data Rep. Fish. Aquat. Sci.* 518: 117 p. (12)
- Hancock, M. J., and D. E. Marshall. 1985. Catalogue of salmon streams and spawning escapements of Statistical Area 29, New Westminster Subdistrict. *Can. Data Rep. Fish. Aquat. Sci.* 495: 90 p. (12)
- Hankin, D. G. *see* Diamond, N.
- Hansen, T. J., and D. Møller. 1985. Yolk absorption, yolk sac constrictions, mortality, and growth during first feeding of Atlantic salmon (*Salmo salar*) incubated on astro-turf. *Can. J. Fish. Aquat. Sci.* 42: 1073-1078.
- Hanson, A. *see* Apostle, R.
- Hanson, J. M., and W. C. Leggett. 1985. Experimental and field evidence for inter- and intraspecific competition in two freshwater fishes. *Can. J. Fish. Aquat. Sci.* 42: 280-286.
- Hara, T. J. *see* Evans, R. E.
- Hara, T. J. *see* Jones, K. A.
- Harbicht, S. M. *see* Franzin, W. G.
- Harding, G. C. *see* Hargrave, B. T.
- Harding, G. C. *see* Paranjape, M. A.
- Hardy, R. W., and K. D. Shearer. 1985. Effect of dietary calcium phosphate and zinc supplementation on whole body zinc concentration of rainbow trout (*Salmo gairdneri*). *Can. J. Fish. Aquat. Sci.* 42: 181-184.
- Hargrave, B. T. 1985. Feeding rates of abyssal scavenging amphipods (*Eurythenes gryllus*) determined *in situ* by time-lapse photography. *Deep-Sea Res.* 32: 443-450. S 3513. (7)
- Hargrave, B. T., G. C. Harding, K. F. Drinkwater, T. C. Lambert, and W. G. Harrison. 1985. Dynamics of the pelagic food web in St. Georges Bay, southern Gulf of St. Lawrence. *Mar. Ecol. Prog. Ser.* 20: 221-240. S 3393. (7)
- Hargreaves, N. B., and R. J. LeBrasseur. 1985. Species selective predation on juvenile pink (*Oncorhynchus gorbuscha*) and chum salmon (*O. keta*) by coho salmon (*O. kisutch*). *Can. J. Fish. Aquat. Sci.* 42: 659-668.
- Harmon, P. R. *see* Saunders, R. L.
- Harris, L. *see* Smith, R. E. H.
- Harris, L. R. *see* Head, E. J. H.

- Harrison, P. J., J. D. Fulton, G. Miller, C. D. Levings, F. J. R. Taylor, T. R. Parsons, P. A. Thompson, and D. W. Mitchell. 1984. A bibliography of the biological oceanography of the Strait of Georgia and adjacent inlets, with emphasis on ecological aspects. Can. Tech. Rep. Fish. Aquat. Sci. 1293: 140 p. (1)
- Harrison, P. J. *see* Antia, N. J.
- Harrison, W. G., T. Platt, and M. R. Lewis. 1985. The utility of light-saturation models for estimating marine primary productivity in the field: a comparison with conventional "simulated" *in situ* methods. Can. J. Fish. Aquat. Sci. 42: 864-872.
- Harrison, W. G. *see* Hargrave, B. T.
- Harrison, W. G. *see* Laws, E. A.
- Harrison, W. G. *see* Smith, J. C.
- Harrison, W. G. *see* Smith, R. E. H.
- Hartman, G. F. *see* Birtwell, I. K.
- Harvey, B. P. *see* LeJeune, R.
- Haugstlett, A. 1979. The Norwegian fillet industry - thoughts regarding the technology of the future. Can. Transl. Fish. Aquat. Sci. 5131: 142 p. (Translated from Norwegian: Fiskeriteknologisk Forskningsinst. Rapp., Prosjektnummer 663.3-6D, 82 p., 1979. FTFI, Stakkevollv. 23, Postboks 677, 9001 Tromsø, Norway.)
- Havas, M. 1985. Aluminum bioaccumulation and toxicity to *Daphnia magna* in soft water at low pH. Can. J. Fish. Aquat. Sci. 42: 1741-1748.
- Hawk, E. G. *see* Schiewe, M. H.
- Hawkins, C. M., and T. W. Rowell. 1984. Some useful conversions in relating historical and future catch statistics of soft-shell clams (*Mya arenaria*) in the Scotia-Fundy Region. Can. Tech. Rep. Fish. Aquat. Sci. 1309: 16 p. (8)
- Hawkins, C. M. *see* Angus, R. B.
- Hay, D. E. 1985. Reproductive biology of Pacific herring (*Clupea harengus pallasii*). Can. J. Fish. Aquat. Sci. 42(Suppl.1): 111-126.
- Hay, K. *see* Dehn, P. F.
- Hayeur, G. *see* Robitaille, J. A.
- Haynes, J. M. *see* Mellas, E. J.
- Head, E. J. H., and L. R. Harris. 1985. Physiological and biochemical changes in *Calanus hyperboreus* from Jones Sound NWT during the transition from summer feeding to overwintering condition. Polar Biol. 4: 99-106. S 3448. (7)
- Head, E. J. H., L. R. Harris, and C. Abou Debs. 1985. Effect of daylength and food concentration on *in situ* diurnal feeding rhythms in Arctic copepods. Mar. Ecol. Prog. Ser. 24: 281-288. S 3511. (7)
- Head, E. J. H. *see* Stuart, V.
- Healey, P. P. 1985. Interacting effects of light and nutrient limitation on the growth rate of *Synechococcus linearis* (Cyanophyceae). J. Phycol. 21: 134-146. S 3452. (4)
- Healey, P. P. *see* Peterson, H. G.
- Hebda, A. J. *see* Burns, B. G.
- Hecky, R. E. 1984. African lakes and their trophic efficiencies: a temporal perspective, p. 405-448. In Trophic interactions within aquatic ecosystems. AAAS, Washington, DC. S 3366. (4)
- Hedrick, R. P., J. Speas, M. L. Kent, and T. McDowell. 1985. Adenovirus-like particles associated with a disease of cultured white sturgeon, *Acipenser transmontanus*. Can. J. Fish. Aquat. Sci. 42: 1321-1325.
- Heizer, S. R. *see* Lightly, D. T.
- Henderson, B. A., and E. H. Brown Jr. 1985. Effects of abundance and water temperature on recruitment and growth of alewife (*Alosa pseudoharengus*) in South Bay, Lake Huron, 1954-82. Can. J. Fish. Aquat. Sci. 42: 1608-1613.
- Henderson, E. B. *see* Saunders, R. L.
- Henderson, M. A., and A. T. Charles. 1984. Reconstruction of British Columbia pink salmon stocks (*Oncorhynchus gorbuscha*): 1970-1982. Part I: Queen Charlotte Islands, north coast and central coast. Can. MS Rep. Fish. Aquat. Sci. 1785: 99 p. (12)
- Henderson, M. A., and T. G. Northcote. 1985. Visual prey detection and foraging in sympatric cutthroat trout (*Salvelinus clarki clarki*) and Dolly Varden (*Salvelinus malma*). Can. J. Fish. Aquat. Sci. 42: 785-790.
- Henderson, M. A. *see* Charles, A. T.
- Henderson, M. A. *see* Starr, P. J.
- Hendzel, M. R. *see* Reiger, A. W.
- Henri, M., J. J. Dodson, and H. Powles. 1985.

- Spatial configurations of young herring (*Clupea harengus harengus*) larvae in the St. Lawrence estuary: importance of biological and physical factors. Can. J. Fish. Aquat. Sci. 42(Suppl.1): 91-104.
- Henry, R. F. 1984. Flood hazard delineation at Tuktoyaktuk. Can. Contract. Rep. Hydrogr. Ocean Sci. 19: 117 p. (14)
- Herman, A. W. 1985. Biological profiling in the upper oceanic layers with a Batfish vehicle: a review of applications, p. 293-314. In A. Zirino (ed.) Mapping strategies in chemical oceanography. Advances in Chemistry Series 209, American Chemical Society. S 3473. (7)
- Herman, A. W. see Sameoto, D.
- Herman, A. W. see Smith, P. C.
- Hershey, A. E., and M. E. McDonald. 1985. Diet and digestion rates of slimy sculpin, *Cottus cognatus*, in an Alaskan arctic lake. Can. J. Fish. Aquat. Sci. 42: 483-487.
- Hess, C. T. see Norton, S. A.
- Hesslein, R. H. see Schindler, D. W.
- Higgs, D. A., J. R. Markert, M. D. Plotnikoff, J. R. McBride, and B. S. Dosanjh. 1985. Development of nutritional and environmental strategies for maximizing the growth and survival of juvenile pink salmon (*Oncorhynchus gorbuscha*). Aquaculture 47: 113-130. S 3514. (3)
- Higgs, D. A. see Markert, J. R.
- Higgs, D. A. see Richardson, N. L.
- Hightower, J. E., and G. D. Grossman. 1985. Comparison of constant effort harvest policies for fish stocks with variable recruitment. Can. J. Fish. Aquat. Sci. 42: 982-988.
- Higler, B. see Statzner, B.
- Hilborn, R. 1985. Apparent stock recruitment relationships in mixed stock fisheries. Can. J. Fish. Aquat. Sci. 42: 718-723.
- Hilborn, R. 1985. Fleet dynamics and individual variation: why some people catch more fish than others. Can. J. Fish. Aquat. Sci. 42: 2-13.
- Hilborn, R. 1985. Simplified calculation of optimum spawning stock size from Ricker's stock recruitment curve. Can. J. Fish. Aquat. Sci. 42: 1833-1834.
- Hilborn, R., and M. Ledbetter. 1985. Determinants of catching power in the British Columbia purse seine fleet. Can. J. Fish. Aquat. Sci. 42: 51-56.
- Hilborn, R. see Argue, A. W.
- Hilborn, R. see Lawson, T. A.
- Hill, S. see Denman, K.
- Hill, S. H., M. R. Abbott, and K. L. Denman. 1985. A computer-controlled turbidostat for the culture of planktonic algae. Can. J. Fish. Aquat. Sci. 42: 744-753.
- Hillier, K. see Gibson, R. J.
- Hilton, J. W. see Dixon, D. G.
- Himmelman, J. H., and Y. Lavergne. 1985. Organization of rocky subtidal communities in the St. Lawrence Estuary. Natur. can. (Rev. Ecol. Syst.) 112: 143-154. S 3503. (13)
- Hirata, H. see Kadowaki, S.
- Hnytka, F. N. see McKinnon, G. A.
- Hodgins, D. O. 1985. A review of extreme wave conditions in the Beaufort Sea. Can. Contract. Rep. Hydrogr. Ocean Sci. 12: 160 p. (10)
- Hodgins, D. O., P. H. LeBlond, and D. A. Huntley. 1985. Shallow-water wave calculations. Can. Contract. Rep. Hydrogr. Ocean Sci. 10: 75 p. (10)
- Hodson, P. V., and D. J. Spry. 1985. Effect of sulfite dechlorination on the accumulation of waterborne lead by rainbow trout (*Salmo gairdneri*). Can. J. Fish. Aquat. Sci. 42: 841-844.
- Hollinger, A. B. see Borstad, G. A.
- Holloway, G. see Ramsden, D.
- Holmes, P. E., M. L. Tarves, R. Tomio, and W. Jansen. 1985. Fish and fish habitat impact study of seven British Columbia coastal marinas, 1984. Can. MS Rep. Fish. Aquat. Sci. 1809: 121 p. (1)
- Horler, A., M. E. Jarvis, and R. A. C. Johnston. 1985. Creel census study on Fox, Marsh and Tagish lakes in the Yukon Territory, 1983. Can. MS Rep. Fish. Aquat. Sci. 1803: 46 p. (12)
- Horne, E. P. W. 1985. Ice-induced vertical circulation in an Arctic fiord. J. Geophys. Res. 90: 1078-1086. S 3396. (7)
- Horne, E. P. W. see Lewis, M. R.
- Horne, E. P. W. see Smith, J. C.

- Horns, W. H. 1985. Differences in early development among lake trout (*Salvelinus namaycush*) populations. Can. J. Fish. Aquat. Sci. 42: 737-743.
- Hoshino, C. see Iida, H.
- Hoskins, G. E., and F. C. Dalziel. 1984. Survival of chinook fry (*Oncorhynchus tshawytscha*) following exposure to benzalkonium chloride in soft water. Prog. Fish-Cult. 46: 98-101. S 3409. (1)
- Hoskins, G. E. see Bell, G. R.
- Hourston, A. S. see Alderdice, D. F.
- Howley, T. P. see Hamley, J. M.
- Hsiao, S. I. C., and N. Pinkewycz. 1984. Surface phytoplankton from 1982 cruises in Frobisher Bay. Can. Data Rep. Fish. Aquat. Sci. 482: 46 p. (5)
- Hsiao, S. I. C., and N. Pinkewycz. 1985. Arctic marine phytoplankton contributed to the sediments in Frobisher Bay. Can. Data Rep. Fish. Aquat. Sci. 539: 106 p. (5)
- Hsiao, S. I. C., N. Pinkewycz, A. A. Mohammed, and E. H. Grainger. 1984. Sea ice biota and under-ice plankton from southeastern Hudson Bay in 1983. Can. Data Rep. Fish. Aquat. Sci. 494: 49 p. (5)
- Huggett, W. S. see Thomson, R. E.
- Hume, J. M. B., and T. G. Northcote. 1985. Initial changes in use of space and food by experimentally segregated populations of Dolly Varden (*Salvelinus malma*) and cutthroat trout (*Salmo clarki*). Can. J. Fish. Aquat. Sci. 42: 101-109.
- Humphreys, R. D. see Trumble, R. J.
- Humphries, R. D. see Chalmers, D. D.
- Hunter, G. A. see Donaldson, E. M.
- Hunter, G. A. see Solar, I. I.
- Hunter, G. A. see Van der Kraak, G.
- Huntley, D. A. see Hodgins, D. O.
- Hurley, G. V., P. H. Odense, R. K. O'Dor, and E. G. Dawe. 1985. Strontium labelling for verifying daily growth increments in the statolith of the short-finned squid (*Illex illecebrosus*). Can. J. Fish. Aquat. Sci. 42: 380-383.
- Hutchins, M. L. see Uttormark, P. D.
- Hyatt, K. D., D. Rutherford, T. Gjernes, P. Rankin, and T. Cone. 1984. Lake Enrichment Program: juvenile sockeye unit survey guidelines. Can. MS Rep. Fish. Aquat. Sci. 1796: 84 p. (1)
- Hyatt, K. D., and J. G. Stockner. 1985. Responses of sockeye salmon (*Oncorhynchus nerka*) to fertilization of British Columbia coastal lakes. Can. J. Fish. Aquat. Sci. 42: 320-331.
- Hyatt, K. D. see Stockner, J. G.
- I
- Iida, H., K. Nakamura, T. Tokunaga, K. Sato, C. Hoshino, S. Terano, and T. Furukawa. 1982. Study on the several chemical tests for estimating the quality of canned product. II. On the canned sardine and masu-salmon. Can. Transl. Fish. Aquat. Sci. 5167: 28 p. (Translated from Japanese: Bull. Tokai Reg. Fish. Res. Lab. (107): 11-23.)
- Ikeda, M. 1985. A coupled ice-ocean model of a wind-driven coastal flow. J. Geophys. Res. 90: 9119-9128. S 3541. (7)
- Ikeda, M. 1985. Internal Kelvin waves generated by quasi-periodic mesoscale motion along the coast. J. Phys. Oceanogr. 15: 1205-1211. S 3540. (7)
- Ikeda, M. 1985. Wind effects on a front over the continental shelf slope. J. Geophys. Res. 90: 9108-9118. S 3542. (7)
- Iles, T. D. see Sinclair, M.
- Ingham, M. C. see Trites, R. W.
- Ingram, R. G., L. Legendre, Y. Simard, and S. Lepage. 1985. Phytoplankton response to freshwater runoff: the diversion of the Eastmain River, James Bay. Can. J. Fish. Aquat. Sci. 42: 1216-1221.
- Ingram, R. G. see Gosselin, M.
- Institute of Marine Research. 1983. Program outline for egg and larval investigations and continuation of impact evaluation of damages by potential oil accidents on the most important fish species north of 62°N. Can. Transl. Fish. Aquat. Sci. 5125: 15 p. (Translated from Norwegian: Fiskeridirektoratets Havforskningsinstitutt, Bergen, Norway: 11 p.)
- Iredale, D. G. see Ward, W. J.
- Irvine, J. R. 1985. Effects of successive flow perturbations on stream invertebrates. Can. J. Fish. Aquat. Sci. 42: 1922-1927.
- Irwin, B. see Fasham, M. J. R.

- Irwin, B. D. *see* Smith, J.C.
- Isenor, A. *see* Petrie, B.
- Ishigami, M. *see* Timperley, M. H.
- Ivankov, V. N. 1983. Causes of the variability of the fecundity and age of sexual maturation in monocyclic fish, based on the example of *Oncorhynchus* salmon. Can. Transl. Fish. Aquat. Sci. 5137: 17 p. (Translated from Russian: Vopr. Ikhtiol. 23(5): 805-812.)
- Ivankov, V. N., and N. I. Sergienko. 1984. The internal structure of ovicells in Salmonidae and Coregonidae and the taxonomic status of these groups of fishes. Can. Transl. Fish. Aquat. Sci. 5134: 14 p. (Translated from Russian: Zool. Zh. 63(2): 222-227.)
- J
- Jakobsson, J. 1985. Monitoring and management of the Northeast Atlantic herring stocks. Can. J. Fish. Aquat. Sci. 42(Suppl.1): 207-221.
- James, M. *see* Bijsterveld, L.
- James, M. D. 1984. Historic and present native participation in Pacific coast commercial fisheries. Can. MS Rep. Fish. Aquat. Sci. 1786: 45 p. (12)
- James, M. D. 1984. The Visitors Sportfishing Survey - 1982. Can. MS Rep. Fish. Aquat. Sci. 1787: 30 p. (12)
- Jamieson, G. S. (ed.). 1984. Shellfish management advice, Pacific region. Can. MS Rep. Fish. Aquat. Sci. 1774: 71 p. (1)
- Jamieson, G. S. *see* Shields, T. L.
- Janicki, K. 1982-1983. The threat to man from contamination of the water environment. Can. Transl. Fish. Aquat. Sci. 5124: 19 p. (Translated from Polish: Folia Med. Cracov. 24(3-4): 193-202.)
- Jansen, W. *see* Holmes, P. E.
- Jarvis, M. E. *see* Horler, A.
- Javech, J. C. *see* Prince, E. D.
- Jensen, A. L. 1985. Relations among net reproductive rate and life history parameters for lake whitefish (*Coregonus clupeaformis*). Can. J. Fish. Aquat. Sci. 42: 164-168.
- Jensen, J. O. T., and D. F. Alderdice. 1984. Effect of temperature on short-term storage of eggs and sperm of chum salmon (*Oncorhynchus keta*). Aquaculture 37: 251-265. S 3399. (1)
- Jensen, J. O. T., A. N. Hally, and J. Schnute. 1985. Literature data on salmonid response to gas supersaturation and ancillary factors. Can. Data Rep. Fish. Aquat. Sci. 501: 35 p. (1)
- Jensen, J. O. T. *see* Alderdice, D. F.
- Jensen, J. O. T. *see* Rombough, P. J.
- Jerome, V. *see* Zitko, V.
- Jerome, V. E. *see* Ray, S.
- Jessop, B. M. 1985. Influence of mesh composition, velocity, and run time on the catch and length composition of juvenile alewives (*Alosa pseudoharengus*) and blueback herring (*A. aestivalis*) collected by pushnet. Can. J. Fish. Aquat. Sci. 42: 1928-1939.
- Johnsen, P. B. *see* Døving, K. B.
- Johnston, C. E., and J. C. Cheverie. 1985. Comparative analysis of ionoregulation in rainbow trout (*Salmo gairdneri*) of different sizes following rapid and slow salinity adaptation. Can. J. Fish. Aquat. Sci. 42: 1994-2003.
- Johnston, C. E. *see* Saunders, R. L.
- Johnston, D. J. *see* Lacroix, G. L.
- Johnston, R. A. C. *see* Horler, A.
- Johnston, R. A. C. *see* Milligan, P. A.
- Jones, E. P. *see* Anderson, L. G.
- Jones, E. P. *see* Smith, S. D.
- Jones, H. A. C. *see* Bolduc, P-A.
- Jones, K. *see* Fasham, M. J. R.
- Jones, K. A., T. J. Hara, and E. Scherer. 1985. Behavioral modifications in Arctic char (*Salvelinus alpinus*) chronically exposed to sublethal pH. Physiol. Zool. 58: 400-412. S 3505. (4)
- Jones, K. A., T. J. Hara, and E. Scherer. 1985. Locomotor response by Arctic char (*Salvelinus alpinus*) to gradients of H<sup>+</sup> and CO<sub>2</sub>. Physiol. Zool. 58: 413-420. S 3506. (4)
- Jonsson, B., and J. Ruud-Hansen. 1985. Water temperature as the primary influence on timing of seaward migrations of Atlantic salmon (*Salmo salar*) smolts. Can. J. Fish. Aquat. Sci. 42: 593-595.
- Jude, D. J., and F. J. Tesar. 1985. Recent changes in the inshore forage fish of Lake



- Michigan. Can. J. Fish. Aquat. Sci. 42: 1154-1157.
- Julshamn, K. see Rindal, O.
- Juniper, S. K., and R. O. Brinkhurst (eds.). 1984. Proceedings of a Multidisciplinary Symposium on Saanich Inlet, 2nd February, 1983. Can. Tech. Rep. Hydrogr. Ocean Sci. 38: 194 p. (14)
- K
- Kabata, Z. 1983. Diseases caused by metazoans: crustaceans, p. 321-399. In O. Kinne (ed.) Diseases of marine animals. Vol. IV. Biologische Anstalt Helgoland, Hamburg. S 3467. (1)
- Kabata, Z. 1984. *Caligus sicarius* n. sp. (Copepoda: Siphonostomatoida). A parasite of *Crenimugil crenilabris* (Forsk.) (Pisces: Teleostei) in the Gulf of Aqaba. Wlad. Parazytol. 3: 133-139. S 3388. (1)
- Kabata, Z. 1984. A contribution to the knowledge of Chondracanthidae (Copepoda: Poecilostomatoida) parasitic on fishes of British Columbia. Can. J. Zool. 62: 1703-1713. S 3343. (1)
- Kabata, Z. 1985. Parasites and diseases of fish cultured in the tropics. Taylor & Francis, Ltd., London & Philadelphia, 318 p. S 3434. (1)
- Kabata, Z., and D. J. Whitaker. 1984. Results of three investigations of the parasite fauna of several marine fishes of British Columbia. Can. Tech. Rep. Fish. Aquat. Sci. 1303: 19 p. (1)
- Kabata, Z. see Ruangpan, L.
- Kadowaki, S., T. Kasedo, and T. Nakazono. 1978. Continuous records of DO contents by cruising in the coastal culture farms. I. Relation between DO content and fish density in cages. Can. Transl. Fish. Aquat. Sci. 5189: 11 p. (Translated from Japanese: Mem. Fac. Fish. Kagoshima Univ. 27(1): 273-280.)
- Kadowaki, S., T. Kasedo, T. Nakazono, and H. Hirata. 1978. Continuous records of DO contents by cruising in the coastal culture farms. II. Diffusion of suspended particles by feeding. Can. Transl. Fish. Aquat. Sci. 5190: 14 p. (Translated from Japanese: Mem. Fac. Fish. Kagoshima Univ. 27(1): 281-288.)
- Kadowaki, S., T. Kasedo, T. Nakazono, Y. Yamashita, and H. Hirata. 1980. The relation between sediment flux and fish feeding in coastal culture farms. Can. Transl. Fish. Aquat. Sci. 5188: 13 p. (Translated from Japanese: Mem. Fac. Fish. Kagoshima Univ. 29: 217-224.)
- Kalff, J. see Chambers, P. A.
- Karl, D. M. see Laws, E. A.
- Kasdan, L. see Apostle, R.
- Kasedo, T. see Kadowaki, S.
- Kask, B. A., and T. J. Brown. 1984. Meiofauna sled samples from Campbell River estuary and Discovery Passage 1982. Can. Data Rep. Fish. Aquat. Sci. 476: 157 p. (1)
- Kask, B. A., and T. J. Brown. 1985. Meiofauna sled samples from Campbell River estuary and Discovery Passage 1983. Can. Data Rep. Fish. Aquat. Sci. 499: 207 p. (1)
- Kask, B. A. see Brown, T. J.
- Kask, B. A. see Kotyk, M. S.
- Katopodis, C., and N. Rajaratnam. 1984. Similarity of scale models of Denil fishways, 6 p. In H. Kobus (ed.) Symposium on scale effects in modelling hydraulic structures, September 3-6, 1984, Technische Akademie Esslingen, W. Germany. S 3327. (4)
- Katopodis, C. see Rajaratnam, N.
- Kaushik, N. K., G. L. Stephenson, K. R. Solomon, and K. E. Day. 1985. Impact of permethrin on zooplankton communities in limnocorals. Can. J. Fish. Aquat. Sci. 42: 77-85.
- Kaushik, N. K. see Solomon, K. R.
- Kavumpurath, S. see Lessman, C. A.
- Kawashima, M. see Timperley, M. H.
- Kayes, T. B. see Malison, J. A.
- Ke, P. J., B. A. Linke, D. W. Lemon, and L. W. Regier. 1985. Technical evaluation of gamma-irradiation pretreatment on quality preservation for fresh fish. Can. Tech. Rep. Fish. Aquat. Sci. 1393: 16 p. (8)
- Ke, P. J. see Burns, B. G.
- Kean, J. C., J. D. Castell, and D. J. Trider. 1985. Juvenile lobster (*Homarus americanus*) do not require dietary ascorbic acid. Can. J. Fish. Aquat. Sci. 42: 368-370.
- Kean, J. C. see Desjardins, L. M.
- Keast, A. 1985. Planktivory in a littoral-dwelling lake fish association: prey selection and seasonality. Can. J. Fish. Aquat. Sci. 42: 1114-1126.
- Keeley, J. R. 1984. Observations of an internal resonance in a fjord. J. Mar. Res. 42: 873-891. S 3465. (10)

- Kelly, C. A., and J. W. M. Rudd. 1984. Epilimnetic sulfate reduction and its relationship to lake acidification. *Biogeochemistry* 1: 63-77. S 3353. (4)
- Kelly, C. A. *see* Furutani, A.
- Kelly, R. K., and O. Nielsen. 1985. Inhibition of infectious pancreatic necrosis virus by serum from normal rainbow trout (*Salmo gairdneri*) in Canadian hatcheries. *Fish. Pathol.* 19: 245-251. S 3446. (4)
- Kelso, J. R. M. 1985. Standing stock and production of fish in a cascading lake system on the Canadian Shield. *Can. J. Fish. Aquat. Sci.* 42: 1315-1320.
- Kendall, A. W. Jr., and J. B. Marliave (eds.). 1985. Descriptions of early life history stages of selected fishes: from the 3rd International Symposium on the early life history of fishes and 8th Annual Larval Fish Conference, May 1984, University of British Columbia, Vancouver, Canada. *Can. Tech. Rep. Fish. Aquat. Sci.* 1359: 82 p. (1)
- Kennedy, O. D. *see* Mason, J. C.
- Kent, M. L. *see* Hedrick, R. P.
- Kepkay, P. E. 1985. Kinetics of microbial manganese oxidation and trace metal binding in sediments: results from an in situ dialysis technique. *Limnol. Oceanogr.* 30: 713-726. S 3510. (7)
- Kepkay, P. E., and F. Ø. Andersen. 1985. Aerobic and anaerobic metabolism of a sediment enriched with *Spartina detritus*. *Mar. Ecol. Prog. Ser.* 21: 153-161. S 3417. (7)
- Kerr, S. R., and L. M. Dickie. 1984. Measuring the health of aquatic ecosystems, p. 279-284. In V. W. Cairns, P. V. Hodson, and J. O. Nriagu (eds.) *Contaminant effects on fisheries*. John Wiley & Sons, Inc., New York. S 3337. (7)
- Kerr, S. R., and L. M. Dickie. 1985. Bioenergetics of O+ Atlantic herring (*Clupea harengus harengus*). *Can. J. Fish. Aquat. Sci.* 42(Suppl.1): 105-110.
- Ketcheson, J. E. *see* Evelyn, T. P. T.
- Khan, R. A., and J. Kiceniuk. 1984. Histopathological effects of crude oil on Atlantic cod following chronic exposure. *Can. J. Zool.* 62: 2038-2043. S 3459. (9)
- Kiceniuk, J. *see* Khan, R. A.
- Kieser, R. 1985. A versatile echo integration/datalogging system for fisheries research and management. *Can. Tech. Rep. Fish. Aquat. Sci.* 1378: 48 p. (1)
- Kilgour, D. M., R. W. McCauley, and W. Kwain. 1985. Modeling the lethal effects of high temperature on fish. *Can. J. Fish. Aquat. Sci.* 42: 947-951.
- Kimmel, B. L. *see* Elser, J. J.
- Kimura, D. K. 1985. Changes to Stock Reduction Analysis indicated by Schnute's general theory. *Can. J. Fish. Aquat. Sci.* 42: 2059-2060.
- Kingsley, M. C. S., I. Stirling, and W. Calvert. 1985. The distribution and abundance of seals in the Canadian high Arctic, 1980-82. *Can. J. Fish. Aquat. Sci.* 42: 1189-1210.
- Klotz, R. L. 1985. Influence of light on the alkaline phosphatase activity of *Selenastrum capricornutum* (Chlorophyceae) in streams. *Can. J. Fish. Aquat. Sci.* 42: 384-388.
- Klut, M. E., N. J. Antia, and T. Bisalputra. 1984. Some properties of a fluoride-resistant mutant of the marine dinoflagellate *Amphidinium carterae*. *Phycologia* 23: 301-310. S 3341. (3)
- Knight, K. *see* Souter, B. W.
- Knoechel, R. *see* Chow-Fraser, P.
- Knutsen, H., E. Moksnes, and N. B. Vogt. 1985. Distinguishing between one-day-old cod (*Gadus morhua*) and haddock (*Melanogrammus aeglefinus*) eggs by gas chromatography and SIMCA pattern recognition. *Can. J. Fish. Aquat. Sci.* 42: 1823-1826.
- Kobayashi, T. 1968. A note of the seaward migration of pink salmon fry. *Can. Transl. Fish. Aquat. Sci.* 5136: 14 p. (Translated from Japanese: *Sci. Rep. Hokkaido Salmon Hatchery* 22: 5 p.)
- Koizumi, C. *see* Ohshima, T.
- Korner, W. F. 1952. Studies on the formation of the house in appendicularians (*Oikopleura dioica* Fol.). *Can. Transl. Fish. Aquat. Sci.* 5132: 91 p. (Translated from German: *Z. Morphol. Oekol. Tiere* 41: 1-53.)
- Koty, M. *see* Brown, T. J.
- Koty, M. *see* Macdonald, J. D.
- Koty, M. S., T. J. Brown, B. A. Kask, C. D. Levings, C. D. McAllister, J. S. Macdonald, and B. D. Chang. 1985. Data record on coded wire tags recovered from juvenile salmonids at Campbell River estuary and Discovery Passage, 1984. *Can. Data Rep. Fish. Aquat.*

- Sci. 527: 17 p. (3)
- Kotyk, M. S., T. J. Brown, B. A. Kask, C. D. Levings, C. D. McAllister, J. S. Macdonald, and B. D. Chang. 1985. Length and weight data for unmarked juvenile salmonids sampled in the Campbell River estuary and Discovery Passage, 1984. Can. Data Rep. Fish. Aquat. Sci. 513: 54 p. (3)
- Krahn, M. M. see Schiewe, M. H.
- Kranck, K. 1984. Grain-size characteristics of turbidites, p. 83-92. In D. A. V. Stow, and D. J. W. Piper (eds.) Fine-grained sediments: deep water processes and facies. Blackwell Scientific Publications, Boston, MA. S 3416. (7)
- Kranck, K., and T. G. Milligan. 1985. Origin of grain size spectra of suspension deposited sediment. Geo-Marine Letters 5: 61-66. S 3482. (7)
- Krantzberg, G., and P. M. Stokes. 1985. Benthic macroinvertebrates modify copper and zinc partitioning in freshwater-sediment microcosms. Can. J. Fish. Aquat. Sci. 42: 1465-1473.
- Kreiberg, H., J. R. Brett, and A. Solmie. 1984. Roe herring impoundment research - report on the 1983/1984 studies. Can. Tech. Rep. Fish. Aquat. Sci. 1329: 31 p. (1)
- Kristofferson, A. H. see Gillman, D. V.
- Krueger, C. C. see Wright, J.
- Kruner, G. see Rosenthal, H.
- Kruzynski, G. M. see Macdonald, J. S.
- Ku, L.-F., D. A. Greenberg, C. J. R. Garrett, and F. W. Dobson. 1985. Nodal modulation of the lunar semidiurnal tide in the Bay of Fundy and Gulf of Maine. Science 230: 69-71. S 3528. (7)
- Kulka, D. W., and J. R. Firth. 1985. Observer Program Training Manual - Newfoundland region. Can. Tech. Rep. Fish. Aquat. Sci. 1355: 171 p. (9)
- Kummel, G. 1956. The fine structure of the house of appendicularians (*Oikopleura dioica* Fol.) and of the tunic of ascidian larvae (*Botryllus schlosseri* Pall.). Can. Transl. Fish. Aquat. Sci. 5118: 12 p. (Translated from German: Zool. Beitr. 2: 431-439.)
- Kuntz, K. W. see El-Shaarawi, A. H.
- Kupriyanov, V. V. 1983. The microvascular network of the caudal part of the trunk and of the caudal fins of the dolphin. Can. Transl. Fish. Aquat. Sci. 5176: 16 p. (Translated from Russian: Arkh. Anat. Gistol. Embriol. 85(12): 42-50.)
- Kuznetsov, A. P., and A. A. Shileyko. 1984. Gutless protobranchia (Bivalvia). Can. Transl. Fish. Aquat. Sci. 5150: 23 p. (Translated from Russian: Biol. Nauki (Mosc.) 2: 39-49.)
- Kwain, W. see Kilgour, D. M.
- Kwain, W. see Withler, F. C.
- L
- Lachance, M., D. Brouard, R. Van Coillie et J.-D. Dutil. 1983. Composition chimique des eaux de la rivière Sainte-Marguerite en période de fonte. Water Poll. Res. J. Can. 18: 85-102. S 3367. (13)
- Lacroix, G. L. 1985. Plasma ionic composition of the Atlantic salmon (*Salmo salar*), white sucker (*Catostomus commersoni*), and alewife (*Alosa pseudoharengus*) in some acidic rivers of Nova Scotia. Can. J. Zool. 63: 2254-2261. S 3567. (6)
- Lacroix, G. L. 1985. Survival of eggs and alevins of Atlantic salmon (*Salmo salar*) in relation to the chemistry of interstitial water in redds in some acidic streams of Atlantic Canada. Can. J. Fish. Aquat. Sci. 42: 292-299.
- Lacroix, G. L., D. J. Gordon, and D. J. Johnston. 1985. Effects of low environmental pH on the survival, growth, and ionic composition of postemergent Atlantic salmon (*Salmo salar*). Can. J. Fish. Aquat. Sci. 42: 768-775.
- Laframboise, S. see Vladyskov, V. D.
- Lalancette, L.-M. see Legault, M.
- Lallier, R. see Dutil, J.-D.
- Lallier, R. see Olivier, G.
- Lambert, T. C. see Hargrave, B. T.
- Lambert, T. C. see Ware, D. M.
- Lammens, E. H. R. R., H. W. de Nie, J. Vijverberg, and W. L. T. van Densen. 1985. Resource partitioning and niche shifts of bream (*Abramis brama*) and eel (*Anguilla anguilla*) mediated by predation of smelt (*Osmerus eperlanus*) on *Daphnia hyalina*. Can. J. Fish. Aquat. Sci. 42: 1342-1351.
- Landrum, P. F. see Gardner, W. S.
- Lane, D. E. 1985. A bibliography on the white sturgeon, *Acipenser transmontanus* Richardson,

1836. Can. MS Rep. Fish. Aquat. Sci. 1828: 33 p. (1)
- Lang, C. C. 1985. CTD data acquisition program for a Guideline Mark IV Probe using a HP9824 microcomputer system. Can. Tech. Rep. Fish. Aquat. Sci. 1371: 52 p. (9)
- Langley, K. see Gill, J. A.
- Langlois, C., A. Lemay, J. Ouzilleau et Y. Vigneault. 1985. Qualité physico-chimique de 251 lacs du bouclier canadien (Québec). Rapp. manus. can. sci. halieut. aquat. 1792F: 63 p. (13)
- Langlois, C. see Leclerc, J.
- Lanteigne, S. see Elner, R. W.
- Larkin, P. A., and W. D. McKone. 1985. An evaluation by field experiments of the McLay model of stream drift. Can. J. Fish. Aquat. Sci. 42: 909-918.
- Larsen, N. P. J. Undated. The journey to Twillingate. Can. Transl. Fish. Aquat. Sci. 5169: 35 p. (Translated from German: (Publisher unknown) 41 p. Original Danish translated into German by J. Mez, (no date).)
- Larsson, R. 1983. Identification of Microsporidia (Protozoa, Microspora). Can. Transl. Fish. Aquat. Sci. 5143: 49 p. (Translated from Swedish: Memo. Soc. Fauna Flora Fenn. 59: 33-51.)
- Lasenby, D. C. see Linsey, G. A.
- Lasker, R. 1985. What limits clupeoid production? Can. J. Fish. Aquat. Sci. 42 (Suppl.1): 31-38.
- Laurs, R. M., R. Nishimoto, and J. A. Wetherall. 1985. Frequency of increment formation on sagittae of North Pacific albacore (*Thunnus alalunga*). Can. J. Fish. Aquat. Sci. 42: 1552-1555.
- Lavergne, Y. see Himmelman, J. H.
- Lavoie, R. E. see Elner, R. W.
- Lawrence, D. J., and R. W. Trites. 1983. Surface oil spill trajectory modelling for Georges and Browns banks. Can. Tech. Rep. Hydrogr. Ocean Sci. 29: 30 p. (7)
- Lawrence, D. J. see Tang, C. L.
- Lawrence, S. G., M. MacIver, and I. L. Delbaere. 1984. Species composition and seasonal abundance of zooplankton in Lake 114, Experimental Lakes Area, northwestern Ontario: before and during acidification 1970-1971, 1978-1983. Can. Data Rep. Fish. Aquat. Sci. 472: 49 p. (4)
- Laws, E. A., D. G. Redalje, L. W. Haas, P. K. Bienfang, R. W. Eppley, W. G. Harrison, D. M. Karl, and J. Marra. 1984. High phytoplankton growth and production rates in oligotrophic Hawaiian coastal waters. Limnol. Oceanogr. 29: 1161-1169. S 3379. (7)
- Lawson, T. A., and R. Hilborn. 1985. Equilibrium yields and yield isopleths from a general age-structured model of harvested populations. Can. J. Fish. Aquat. Sci. 42: 1766-1771.
- Layton, M. see Marshall, K. E.
- LaZerte, B. D. see Clark, K. L.
- Le Jeune, R. see Lévesque, F.
- Leaman, B. M., D. A. Nagtegaal, R. D. Stanley, and E. W. Carter. 1985. Rockfish fecundity cruise (GBR-R82-1), November 8-28, 1982. Can. Data Rep. Fish. Aquat. Sci. 526: 64 p. (1)
- Leaman, B. M. see Nagtegaal, D. A.
- Leaman, J. E. 1984. Catch and effort statistics of the Canadian groundfish fishery on the Pacific coast in 1983. Can. Tech. Rep. Fish. Aquat. Sci. 1312: 87 p. (1)
- Leaman, J. E., and J. M. Hamer. 1985. User's guide to the groundfish catch statistics data system of the Fisheries Research Branch, Pacific Region. Can. Tech. Rep. Fish. Aquat. Sci. 1395: 31 p. (1)
- Lean, D. see Solomon, K. R.
- Lear, W. H. 1984. Discrimination of the stock complex of Atlantic cod (*Gadus morhua*) off southern Labrador and eastern Newfoundland, as inferred from tagging studies. J. Northw. Atl. Fish. Sci. 5: 143-159. S 3360. (9)
- Lear, W. H. see Reddin, D. G.
- LeBlond, P. H. see Hodgins, D. O.
- LeBrasseur, R. J. see Hargreaves, N. B.
- Leclerc, J., Y. C. Chagnon, C. Langlois et P. Dulude. 1984. Influence de l'acidification sur la survie et le développement des oeufs et des alevins vésiculés d'omble de fontaine *Salvelinus fontinalis* (Mitchill) dans la région de Charlevoix (Québec). Rapp. tech. can. sci. halieut. aquat. 1343F: 56 p. (13)
- Ledbetter, M. see Hilborn, R.
- Ledrew, L. J. 1984. Historical development of the Arctic charr fishery in northern Labrador, p. 537-548. In L. Johnson, and B. L. Burns (eds.) Biology of the Arctic charr. Proc. International Symposium on Arctic Charr, May 1981, Winnipeg, Manitoba. Univ. Manitoba Press, Winnipeg. S 3501. (9)

- Lee, A. Y. P., D. J. Stucchi, and H. J. Freeland. 1984. Coastal Ocean Dynamics Experiment CTD Data Report: 1979 to 1981. Can. Data Rep. Hydrogr. Ocean Sci. 26: 330 p. (14)
- Lee, D. W. *see* Prince, E. D.
- Lee, F. N. 1985. Design and operation of chilled sea water systems. Can. Tech. Rep. Fish. Aquat. Sci. 1363: 31 p. (2)
- Légaré, B. *see* Dutil, J.-D.
- Legault, M. et L.-M. Lalancette. 1985. Temps d'ajustement de la flottabilité des saumons atlantiques (*Salmo salar*) et flottabilité comparée de saumons atlantiques d'élevage et sauvages. Can. J. Fish. Aquat. Sci. 42: 619-623.
- Legendre, L. *see* Gosselin, M.
- Legendre, L. *see* Ingram, R. G.
- Léger, C. E. *see* Chadwick, E. M. P.
- Leggett, W. C. *see* Boisclair, D.
- Leggett, W. C. *see* Frank, K. T.
- Leggett, W. C. *see* Hanson, J. M.
- LeJeune, R., B. P. Harvey et Y. Vigneault. 1984. Prospection sommaire de quelques habitats d'omble chevalier *Salvelinus alpinus* (Linné) du Québec méridional. Rapp. manus. can. sci. halieut. aquat. 1804F: 47 p. (13)
- Lemay, A. *see* Langlois, C.
- Lemon, D. W. *see* Ke, P. J.
- Lepage, S. *see* Ingram, R. G.
- Lesel, M. *see* Lesel, R.
- Lesel, R., F. Gavini, M. Lesel, and S. Darroze. 1983. Dynamics of rainbow trout bacterial flora during *Yersinia ruckeri*-induced enterosepticemia. Can. Transl. Fish. Aquat. Sci. 5194: 7 p. (Translated from French: INSERM, Colloque international de Bactériologie, 25-27 mai 1983.)
- Leslie, J. K., and J. F. Gorrie. 1984. Early development of the muskellunge, *Esox masquinongy*, of Stony Lake, Ontario. Can. Tech. Rep. Fish. Aquat. Sci. 1319: 20 p. (11)
- Leslie, J. K., and J. E. Moore. 1985. Ecology of young-of-the-year fish in Muscote Bay (Bay of Quinte), Ontario. Can. Tech. Rep. Fish. Aquat. Sci. 1377: 63 p. (11)
- Lessman, C. A., S. Kavumpurath, and H. R. Habibi. 1985. Removal of follicle wall components from ovarian oocytes of the brook trout, *Salvelinus fontinalis*. Can. J. Fish. Aquat. Sci. 42: 2053-2058.
- Létourneau, M. *see* Bates, S. S.
- Lettenmaier, D. P. *see* Millard, S. P.
- Lettic, J. *see* Simpson, K.
- Leung, P. S. *see* Samples, K. C.
- Lévesque, F., R. Le Jeune et G. Shooner. 1985. Synthèse des connaissances sur le saumon atlantique (*Salmo salar*) au stade post-fraie. Rapp. manus. can. sci. halieut. aquat. 1827F: 34 p. (13)
- Lévesque, F. et P. Magnan. 1985. Bibliographie annotée sur le saumon atlantique (*Salmo salar*) au stade post-fraie. Rapp. manus. can. sci. halieut. aquat. 1823F: 42 p. (13)
- Levin, A. V., E. V. Levina, and V. S. Levin. 1984. The reaction of asteroids *Asterias amurensis* and *Distolasterias nipon* to homogenates and chemical substances from Far Eastern starfishes. Can. Transl. Fish. Aquat. Sci. 5153: 12 p. (Translated from Russian: Biol. Morya (Vladivost.) 5: 40-45.)
- Levin, V. S. *see* Levin, A. V.
- Levin, V. S. *see* Volkov, Yu. P.
- Levina, E. V. *see* Levin, A. V.
- Levings, C. D. 1985. Juvenile salmonid use of habitats altered by a coal port in the Fraser River estuary, British Columbia. Mar. Pollut. Bull. 16: 248-254. S 3507. (3)
- Levings, C. D., E. P. Anderson, and G. W. O'Connell. 1985. Biological effects of dredged-material disposal in Alberni Inlet, p. 132-155. In B. Ketchum, J. Canuzzo, W. Burt, I. Duedall, P. Park, and D. Kaster (eds.) Wastes in the ocean, Vol. 6. Near-shore waste disposal. John Wiley & Sons, Inc., New York. S 3552. (3)
- Levings, C. D. *see* Brown, T. J.
- Levings, C. D. *see* Brownlee, M. J.
- Levings, C. D. *see* Harrison, P. J.
- Levings, C. D. *see* Kotyk, M. S.
- Levings, C. D. *see* Stanhope, M. J.
- Levy, E. M. 1984. Oil pollution in the world's oceans. AMBIO 13: 226-235. S 3340. (7)
- Levy, E. M. 1985. Background levels of dissolved/dispersed petroleum residues in the



- Gulf of St. Lawrence, 1970-79. Can. J. Fish. Aquat. Sci. 42: 544-555.
- Lewis, E. O. 1985. Detection of sea-ice features using K<sub>a</sub>-band radar. Electronics Letters 21: 499-500. S 3483. (11)
- Lewis, M. see Platt, T.
- Lewis, M. R., E. P. W. Horne, J. J. Cullen, N. S. Oakey, and T. Platt. 1984. Turbulent motions may control phytoplankton photosynthesis in the upper ocean. Nature 311: 49-50. S 3346. (7)
- Lewis, M. R. see Harrison, W. G.
- Li, W. K. W. 1984. A modified logistic growth equation: effects of cadmium chloride on the diatom, *Thalassiosira weissflogh* and the dinoflagellate, *Amphidinium carteri* in unialgal and bialgal batch cultures. Aquatic Toxicol. 5: 307-313. S 3376. (7)
- Li, W. K. W., and P. M. Dickie. 1984. Rapid enhancement of heterotrophic but not photosynthetic activities in arctic microbial plankton at mesobiotic temperatures. Polar Biol. 3: 217-226. S 3382. (7)
- Li, W. K. W., and P. M. Dickie. 1985. Metabolic inhibition of size-fractionated marine plankton radiolabeled with amino acids, glucose, bicarbonate, and phosphate in the light and dark. Microb. Ecol. 11: 11-24. S 3443. (7)
- Li, W. K. W. see Smith, J. C.
- Lightly, D. T., M. J. Wood, and S. R. Heizer. 1985. The status of chum salmon stocks of the west coast of Vancouver Island, 1951-1982, Statistical Areas 22-27. Can. Tech. Rep. Fish. Aquat. Sci. 1366: 150 p. (1)
- Lim, P. G. see McLean, W. E.
- Lindner, D. see Schwalme, K.
- Linke, B. A. see Ke, P. J.
- Linkletter, L. E. see Caddy, J. F.
- Linkletter, L. E. see Elner, R. W.
- Linsey, G. A., and J. Braund. 1984. Water chemistry data from Lake 223 of the Experimental Lakes Area, northwestern Ontario, 1974 to 1982. Can. Data Rep. Fish. Aquat. Sci. 487: 121 p. (4)
- Linsey, G. A., J. Braund, M. P. Stainton, and J. Prokopowich. 1985. Water chemistry data from the north and south basins of Lake 302 in the Experimental Lakes Area, northwestern Ontario, 1968 to 1983. Can. Data Rep. Fish. Aquat. Sci. 509: 307 p. (4)
- Linsey, G. A., and D. C. Lasenby. 1985. Comparison of summer and winter oxygen consumption rates in a temperate dimictic lake. Can. J. Fish. Aquat. Sci. 42: 1634-1639.
- Linsey, G. A. see Schindler, D. W.
- Lint, D. see Muir, D. C. G.
- Litvinenko, N. I. see Barsukov, V. V.
- Lively, R. R. 1984. Current meter and tide gauge observations for the Strait of Belle Isle. Can. Tech. Rep. Hydrogr. Ocean Sci. 46: 166 p. (7)
- Lively, R. R. 1984. Current meter, meteorological, and sea-level observations off Cape Sable, Nova Scotia. Can. Tech. Rep. Hydrogr. Ocean Sci. 40: 494 p. (7)
- Liversidge, J., A. L. S. Munro, H. J. Schlotfeldt, and T. P. T. Evelyn. 1985. Fischpathogene Viren, p. 112-173. In R. J. Roberts (ed.), H.-J. Schlotfeldt (transl. ed.) Grundlagen der Fischpathologie mit einer Einführung in die Anatomie, Physiologie, Pathophysiologie und Immunologie sowie in den aquatischen Lebensraum der Knochenfische. Verlag Paul Parey, Berlin (FRG). S 3550. (1)
- Lockhart, W. L., D. A. Metner, F. J. Ward, and G. M. Swanson. 1985. Population and cholinesterase responses in fish exposed to malathion sprays. Pestic. Biochem. Physiol. 24: 12-18. S 3504. (4)
- Lockhart, W. L. see Muir, D. C. G.
- Lockhart, W. L. see Yurkowski, M.
- Loder, J. W., and D. G. Wright. 1985. Tidal rectification and frontal circulation on the sides of Georges Bank. J. Mar. Res. 43: 581-604. S 3512. (7)
- Loder, J. W. see Wright, D. G.
- Longhurst, A. R. 1985. The structure and evolution of plankton communities. Prog. Oceanogr. 15: 1-35. S 3426. (7)
- Loring, D. H. 1984. Trace-metal geochemistry of sediments from Baffin Bay. Can. J. Earth Sci. 21: 1368-1378. S 3374. (7)
- Low, G. see Carder, G. W.
- Low, G. see Roberge, M. M.
- Lowe-Jinde, L., and A. J. Niimi. 1984. Short-term and long-term effects of cadmium on glycogen reserves and liver size in rainbow trout (*Salmo gairdneri* Richardson). Arch. Environ. Contam. Toxicol. 13: 759-764. S 3354. (11)

- Loynachan, S. D. *see* Richards, L. J.
- Ludwig, D., and C. J. Walters. 1985. Are age-structured models appropriate for catch-effort data? *Can. J. Fish. Aquat. Sci.* 42: 1066-1072.
- Lukyn, B. V. *see* Blackmun, G. J.
- Luscombe, E. C. *see* Birch, J. R.
- M
- Macdonald, J. S., G. M. Kruzynski, I. K. Birtwell, K. D. Seaman, L. Del Mistro, and M. Kotyk. 1985. Juvenile salmonid food and plankton samples from an inner and outer estuarine station in the Campbell River estuary, British Columbia, 1984. *Can. Data Rep. Fish. Aquat. Sci.* 520: 27 p. (3)
- Macdonald, J. S. *see* Brown, T. J.
- Macdonald, J. S. *see* Kotyk, M. S.
- MacFarlane, J. *see* Watras, C. J.
- MacGregor, C. D. *see* Burns, B. G.
- MacIsaac, E. A., and J. G. Stockner. 1985. Current trophic state and potential impacts of coal mine development on productivity of Middle Quinsam and Long lakes. *Can. Tech. Rep. Fish. Aquat. Sci.* 1381: 63 p. (3)
- MacIver, M. *see* Lawrence, S. G.
- Mackas, D. *see* Denman, K.
- MacKay, R. J. *see* Bower, S. M.
- Mackay, W. C. *see* Schwalme, K.
- Mackay, W. C. *see* Turner, L. J.
- MacKinlay, D. D. 1984. SEP New Projects Unit water quality data collected 1979-1984. *Can. Data Rep. Fish. Aquat. Sci.* 409: 190 p. (12)
- MacLellan, S. E. *see* Chilton, D. E.
- MacPhail, D. K. *see* Ashfield, D.
- MacQuarrie, D. *see* Markert, J. R.
- Magnan, P. *see* Lévesque, F.
- Magnuson, J. J. *see* Rudstam, L. G.
- Magnusson, B. *see* Bewers, J. M.
- Mahon, R. (ed.). 1985. Towards the inclusion of fishery interactions in management advice. Proceedings of a workshop at the Bedford Institute of Oceanography (October 30 - November 1, 1984). *Can. Tech. Rep. Fish. Aquat. Sci.* 1347: 221 p. (7)
- Mahon, R., and E. K. Balon. 1985. Fish production in warmwater streams in Poland and Ontario. *Can. J. Fish. Aquat. Sci.* 42: 1211-1215.
- Mahon, R., R. W. Smith, B. B. Bernstein, and J. S. Scott. 1984. Spatial and temporal patterns of groundfish distribution on the Scotian Shelf and in the Bay of Fundy, 1970-1981. *Can. Tech. Rep. Fish. Aquat. Sci.* 1300: 164 p. (7)
- Maidment, J. M. *see* Coady, L. W.
- Majewski, H. S., and E. Scherer. 1985. Uptake and depuration of two polycyclic aromatic hydrocarbons, fluorene and benzo(a)pyrene, in the mussel *Mytilus edulis* and the diatom *Phaeodactylum tricornutum*. *Water Poll. Res. J. Can.* 20: 29-35. S 3565. (4)
- Malick, J. G. *see* Birtwell, I. K.
- Malison, J. A., C. D. Best, T. B. Kayes, C. H. Amundson, and B. C. Wentworth. 1985. Hormonal growth promotion and evidence for a size-related difference in response to estradiol-17 $\beta$  in yellow perch (*Perca flavescens*). *Can. J. Fish. Aquat. Sci.* 42: 1627-1633.
- Mallat, J. 1985. Fish gill structural changes induced by toxicants and other irritants: a statistical review. *Can. J. Fish. Aquat. Sci.* 42: 630-648.
- Mallet, A. L., E. Zouros, K. E. Gartner-Kepkay, K. R. Freeman, and L. M. Dickie. 1985. Larval viability and heterozygote deficiency in populations of marine bivalves: evidence from pair matings of mussels. *Mar. Biol.* 87: 165-172. S 3509. (7)
- Malley, D. F. *see* Chang, P. S. S.
- Malley, D. F. *see* Schindler, D. W.
- Malm, A. W. 1852. Ichthyological remarks. *Can. Transl. Fish. Aquat. Sci.* 5121: 15 p. (Translated from Swedish: Ofvers. K. Vetenskapsakad. Forh. 9(9,10): 224-234.)
- Mandell, P. *see* Ashfield, D.
- Mangel, M., and J. H. Beder. 1985. Search and stock depletion: theory and applications. *Can. J. Fish. Aquat. Sci.* 42: 150-163.)
- Mann, K. H. 1985. Invertebrate behaviour and the structure of marine benthic communities, p. 227-246. In R. M. Sibly, and R. H. Smith (eds.) Behavioural ecology. Ecological consequences of adaptive behaviour. The 25th Symposium of The British Ecological Society,

- Reading, 1984. S 3449. (7)
- Mann, K. H. see Stuart, V.
- Manzer, J. I., R. B. Morley, and D. J. Girodat. 1985. Terminal travel rates for Alberni Inlet sockeye salmon (*Oncorhynchus nerka*). Can. Tech. Rep. Fish. Aquat. Sci. 1367: 19 p. (1)
- Marchette, D. see Dadswell, M. J.
- Marcogliese, D. J. see McClelland, G.
- Margolis, L. 1984. Book review: A checklist of parasites of California, Oregon, and Washington marine and estuarine fishes, by M. S. Love, and M. Moser. J. Parasitol. 70: 962. S 3460. (1)
- Margolis, L., and B. Berland. 1984. A nomenclatural note concerning *Binoculus salmoneus* Müller, 1785 and *Lepeophteirus salmonis* (Krøyer, 1837) (Copepoda: Caligidae). Sarsia 69: 219. S 3436. (1)
- Margolis, L. see Arthur, J. R.
- Margolis, L. see Bower, S. M.
- Markert, J. R., D. A. Higgs, D. MacQuarrie, J. R. McBride, B. S. Dosanjh, J. Van Tine, and R. Reinhardt. 1985. Evaluation of the potential for using dry rather than semi-moist food for culturing coho salmon in British Columbia hatchery facilities. I. Quinsam Hatchery 1976 brood. Can. Tech. Rep. Fish. Aquat. Sci. 1385: 30 p. (3)
- Markert, J. R. see Higgs, D. A.
- Marliave, J. B. see Kendall, A. W. Jr.
- Marra, J. see Laws, E. A.
- Marryatt, V. see Morrison, C. M.
- Marshall, D. E. see Hancock, M. J.
- Marshall, K. E., and M. Layton. 1985. A bibliography of the Arctic charr, *Salvelinus alpinus* (L.) complex: 1981 through 1984. Can. Tech. Rep. Fish. Aquat. Sci. 1345: 16 p. (4)
- Marshall, W. K. see Muir, D. C. G.
- Martell, D. J. see McClelland, G.
- Marten, G. G. 1985. Radiotracer estimation of microbial biomass in lake sediment. Can. J. Fish. Aquat. Sci. 42: 373-379.
- Martin, J. D. 1984. Atlantic salmon and alewife passage through a pool and weir fishway on the Magaguadavic River, New Brunswick, during 1983. Can. MS Rep. Fish. Aquat. Sci. 1776: 11 p. (6)
- Martin, J. D. 1985. Effects of Mount Pleasant tungsten mine effluent on biota of Hatch Brook. Can. MS Rep. Fish. Aquat. Sci. 1805: 7 p. (6)
- Martin, J. D. see Melvin, G. D.
- Martin, J. H. A., and K. A. Mitchell. 1985. Influence of sea temperature upon the numbers of grilse and multi-sea-winter Atlantic salmon (*Salmo salar*) caught in the vicinity of the River Dee (Aberdeenshire). Can. J. Fish. Aquat. Sci. 42: 1513-1521.
- Mart'yanova-Glebova, I. P. 1962. The helminth fauna of the far eastern Dolly Varden (*Salvelinus malma*) and Kundzha (*Salvelinus leucomaenis*). Can. Transl. Fish. Aquat. Sci. 5133: 14 p. (Translated from Russian: Tr. Gel'mintol. Lab. 12: 52-58.)
- Mason, J. C. 1984. On the fecundity of the sablefish (*Anoplopoma fimbria*) in Canadian waters. Can. Tech. Rep. Fish. Aquat. Sci. 1290: 17 p. (1)
- Mason, J. C., and A. C. Phillips. 1985. Biology of the bathylagid fish, *Leuroglossus schmidtii*, in the Strait of Georgia, British Columbia, Canada. Can. J. Fish. Aquat. Sci. 42: 1144-1153.
- Mason, J. C., A. C. Phillips, and O. D. Kennedy. 1984. Estimating the spawning stocks of Pacific hake (*Merluccius productus*) and walleye pollock (*Theragra chalcogramma*) in the Strait of Georgia, B.C. from their released egg production. Can. Tech. Rep. Fish. Aquat. Sci. 1289: 51 p. (1)
- Matheusik, M. see McElderry, H.
- Mathias, J. A., and J. Barica. 1985. Gas supersaturation as a cause of early spring mortality of stocked trout. Can. J. Fish. Aquat. Sci. 42: 268-279.
- Mathias, J. A. see Glenn, C. L.
- Mathur, D., W. H. Bason, E. J. Purdy Jr., and C. A. Silver. 1985. A critique of the Instream Flow Incremental Methodology. Can. J. Fish. Aquat. Sci. 42: 825-831.
- Matsumiya, M., and S. Otake. 1983. Storability of prepared raw surimi. Can. Transl. Fish. Aquat. Sci. 5139: 12 p. (Translated from Japanese: Bull. Coll. Agric. Vet. Med. Nihon Univ. (40): 121-126.)
- Mattice, E. R. see Brownlee, M. J.
- Matveeva, T. A. 1979. Adaptations to bearing of eggs in some marine bivalves. Can. Transl. Fish. Aquat. Sci. 5170: 8 p. (Translated from Russian: Tr. Zool. Inst. Akad. Nauk SSSR 80: 39-43.)

- McAllister, C. D. see Brown, T. J.
- McAllister, C. D. see Kotyk, M. S.
- McBride, J. R. see Fagerlund, U. H. M.
- McBride, J. R. see Higgs, D. A.
- McBride, J. R. see Markert, J. R.
- McBride, J. R. see Richardson, N. L.
- McCain, B. see Rhodes, L.
- McCauley, R. W. see Kilgour, D. M.
- McClelland, G., R. K. Misra et D. J. Marcogliese. 1985. Variation de l'abondance des d'anisakines larvaires, du ver de phoque (*Phocanema decipiens*) et des espèces apparentées chez la morue et les poissons plats du sud du golfe du Saint-Laurent (4T) et de la plate-forme du Cap-Breton (4Vn). Rapp. tech. can. sci. halieut. aquat. 1201F: 57 p. (8)
- McClelland, G., R. K. Misra, and D. J. Martell. 1985. Variations in abundance of larval anisakines, sealworm (*Pseudoterranova decipiens*) and related species, in eastern Canadian cod and flatfish. Can. Tech. Rep. Fish. Aquat. Sci. 1392: 57 p. (8)
- McCormick, S. D., R. J. Naiman, and E. T. Montgomery. 1985. Physiological smolt characteristics of anadromous and non-anadromous brook trout (*Salvelinus fontinalis*) and Atlantic salmon (*Salmo salar*). Can. J. Fish. Aquat. Sci. 42: 529-538.
- McCormick, S. D. see Saunders, R. L.
- McDonald, M. E. see Hershey, A. E.
- McDowell, T. see Hedrick, R. P.
- McElderry, H., M. Matheusik, and L. J. Richards. 1985. Bottomfish and the British Columbia recreational fishery: an analysis of angler use habits and resource expectations. Can. MS Rep. Fish. Aquat. Sci. 1802: 116 p. (1)
- McElderry, H. I., and L. J. Richards. 1984. Recreational SCUBA diving in the Strait of Georgia: an analysis of the distribution of diving effort and the importance of collecting marine animals. Can. MS Rep. Fish. Aquat. Sci. 1794: 61 p. (1)
- McFarlane, G. A. see Beamish, R. J.
- McFarlane, G. A. see Cass, A. J.
- McFarlane, G. A. see Saunders, M. W.
- McFarlane, G. A. see Shaw, W.
- McFarlane, G. A. see Tyler, A. V.
- McGladdery, S. E., and M. D. B. Burt. 1985. Potential of parasites for use as biological indicators of migration, feeding, and spawning behavior of northwestern Atlantic herring (*Clupea harengus*). Can. J. Fish. Aquat. Sci. 42: 1957-1968.
- McGowan, D. K. 1985. Data from test fisheries conducted in the Baffin and central Arctic regions, Northwest Territories, 1980-84. Can. Data Rep. Fish. Aquat. Sci. 531: 68 p. (4)
- McKeown, D. L. 1984. O.R.E. trackpoint acoustic range-bearing receiver evaluation. Can. Tech. Rep. Hydrogr. Ocean Sci. 47: 37 p. (7)
- McKinnon, G. A., and F. N. Hnytka. 1985. Fish passage assessment of culverts constructed to simulate stream conditions on Liard River tributaries. Can. Tech. Rep. Fish. Aquat. Sci. 1255: 121 p. (4)
- McKnight, B. see Rhodes, L.
- McKone, W. D. see Larkin, P. A.
- McLain, D. R. see Trites, R. W.
- McLean, W. E., and P. G. Lim. 1985. Some effects of water flow rate and alevin density in vertical incubation trays on early development of chinook salmon (*Oncorhynchus tshawytscha*). Can. Tech. Rep. Fish. Aquat. Sci. 1357: 46 p. (12)
- McLean, W. E. see Blackmun, G. J.
- McLean, W. E. see Wright, P. B.
- McLeay, D. J. see Birtwell, I. K.
- McMullin, B. R. see Caddy, J. F.
- McNicol, R. E., and E. Scherer. 1985. A system for recording and analyzing macroinvertebrate behaviour in laboratory stream channels. Can. Tech. Rep. Fish. Aquat. Sci. 1391: 15 p. (4)
- McNicol, R. E., E. Scherer, and E. J. Murkin. 1985. Quantitative field investigations of feeding and territorial behaviour of young-of-the-year brook charr, *Salvelinus fontinalis*. Environ. Biol. Fishes 12: 219-229. S 3421. (4)
- McNicol, R. E. see Scherer, E.
- McPhail, J. D. see Taylor, E. B.
- Mellas, E. J., and J. M. Haynes. 1985. Swimming performance and behavior of rainbow trout (*Salmo gairdneri*) and white perch (*Morone americana*): effects of attaching telemetry transmitters. Can. J. Fish. Aquat. Sci. 42:

- 488-493.
- Melling, H. *see* Birch, J. R.
- Melnikova, M. N. 1964. The fecundity of the Atlantic salmon (*Salmo salar* L.) from the Varguza River. Can. Transl. Fish. Aquat. Sci. 5114: 15 p. (Translated from Russian: Vopr. Ikhtiol. 4(32): 469-476.)
- Melvin, G. D., M. J. Dadswell, and J. D. Martin. 1985. Impact of lowhead hydroelectric tidal power development on fisheries. I. A pre-operation study of the spawning population of American shad, *Alosa sapidissima* (Pisces: Clupeidae), in the Annapolis River, Nova Scotia, Canada. Can. Tech. Rep. Fish. Aquat. Sci. 1340: 33 p. (6)
- Metcalfe, J. L. *see* Peterson, R. H.
- Metner, D. A. *see* Lockhart, W. L.
- Metner, D. A. *see* Yurkowski, M.
- Michel, C., J.-P. Gerard, B. Fourbet, R. Collas, and R. Chevalier. 1980. Use of flumequine against furunculosis in salmonids: therapeutic trials and practical perspectives. Can. Transl. Fish. Aquat. Sci. 5115: 10 p. (Translated from French: Bull. fr. piscic. 277: 154-162.)
- Michel, C. *see* Chevalier, R.
- Michel, G. *see* Truquet, M.
- Michon, F., D. H. Shaw, and J. H. Banoub. 1984. Structure of the lipopolysaccharide core isolated from a human strain of *Aeromonas hydrophila*. Eur. J. Biochem. 145: 107-114. S 3363. (9)
- Michon, F. *see* Banoub, J. H.
- Millard, S. P., J. R. Yearsley, and D. P. Lettenmaier. 1985. Space-time correlation and its effects on methods for detecting aquatic ecological change. Can. J. Fish. Aquat. Sci. 42: 1391-1400.
- Miller, G. *see* Harrison, P. J.
- Miller, G. *see* Simpson, K.
- Miller, R. J. 1985. Seaweeds, sea urchins, and lobsters: a reappraisal. Can. J. Fish. Aquat. Sci. 42: 2061-2072.
- Miller, V. *see* Chalmers, D. D.
- Milligan, P. A., W. O. Rublee, D. D. Cornett, and R. A. C. Johnston. 1985. The distribution and abundance of chinook salmon (*Oncorhynchus tshawytscha*) in the upper Yukon River basin as determined by a radio-tagging and spaghetti tagging program: 1982-1983. Can. Tech. Rep. Fish. Aquat. Sci. 1352: 161 p. (12)
- Milligan, T. G. *see* Kranck, K.
- Mills, K. H. 1985. Responses of lake whitefish (*Coregonus clupeaformis*) to fertilization of Lake 226, the Experimental Lakes Area. Can. J. Fish. Aquat. Sci. 42: 129-138.
- Mills, K. H. *see* Schindler, D. W.
- Minshall, G. W., K. W. Cummins, R. C. Petersen, C. E. Cushing, D. A. Bruns, J. R. Sedell, and R. L. Vannote. 1985. Developments in stream ecosystem theory. Can. J. Fish. Aquat. Sci. 42: 1045-1055.
- Mishima, S. *see* Bakkala, R.
- Misra, R. K. 1985. Quadratic discriminant analysis with covariance for stock delineation and population differentiation: a study of beaked redbishes (*Sebastes mentella* and *S. fasciatus*). Can. J. Fish. Aquat. Sci. 42: 1672-1676.
- Misra, R. K. *see* Dempson, J. B.
- Misra, R. K. *see* McClelland, G.
- Misra, R. K. *see* Reddin, D. G.
- Mitchell, D. W. *see* Harrison, P. J.
- Mitchell, E. D. 1984. Ecology of North Atlantic boreal and Arctic monodontid and mysticete whales, p. 65-78. In Arctic whaling. Arctic Centre, University of Groningen, Netherlands. S 3370. (5)
- Mitchell, E. D. *see* Reeves, R. R.
- Mitchell, K. A. *see* Martin, J. H. A.
- Mittertreiner, A. C., and J. Schnute. 1985. SIMPLEX: a manual and software package for easy nonlinear parameter estimation and interpretation in fishery research. Can. Tech. Rep. Fish. Aquat. Sci. 1384: 90 p. (1)
- Mohammed, A. A. *see* Hsiao, S. I. C.
- Mohn, R. K. *see* Sinclair, M.
- Mohr, L. C. 1985. Depth distribution of the slimy sculpin (*Cottus cognatus*) in a small lake in northwestern Ontario. Can. Tech. Rep. Fish. Aquat. Sci. 1374: 13 p. (4)
- Moksnes, E. *see* Knutsen, H.
- Møller, D. *see* Hansen, T. J.
- Mommsen, T. P. *see* Moon, T. W.



- Montgomery, E. T. see McCormick, S. D.
- Moon, T. W., P. J. Walsh, and T. P. Mommsen. 1985. Fish hepatocytes: a model metabolic system. *Can. J. Fish. Aquat. Sci.* 42: 1772-1782.
- Moore, B. see Bijsterveld, L.
- Moore, J. E. see Leslie, J. K.
- Moore, J. A. see Winters, G. H.
- Moore, R. B., and E. G. M. Ash. 1984. Fishway and counting fence operations in Newfoundland and Labrador, 1949-79. *Can. Data Rep. Fish. Aquat. Sci.* 477: 123 p. (9)
- Moreau, G. see Allard, M.
- Morel, F. M. M. see Watras, C. J.
- Moreland, K. see Aiken, D. E.
- Morin, A. 1985. Variability of density estimates and the optimization of sampling programs for stream benthos. *Can. J. Fish. Aquat. Sci.* 42: 1530-1534.
- Morita, S. 1985. History of the herring fishery and review of artificial propagation techniques for herring in Japan. *Can. J. Fish. Aquat. Sci.* 42(Suppl.1): 222-229.
- Mork, J., N. Ryman, G. Ståhl, F. Utter, and G. Sundnes. 1985. Genetic variation in Atlantic cod (*Gadus morhua*) throughout its range. *Can. J. Fish. Aquat. Sci.* 42: 1580-1587.
- Morley, R. B. see Beacham, T. D.
- Morley, R. B. see Bilton, H. T.
- Morley, R. B. see Fagerlund, U. H. M.
- Morley, R. B. see Manzer, J. I.
- Morrison, C. M., J. W. Cornick, G. Shum, and B. Zwickler. 1984. Histopathology of atypical *Aeromonas salmonicida* infection in Atlantic cod, *Gadus morhua* L. *J. Fish Dis.* 7: 477-494. S 3387. (8)
- Morrison, C. M., V. Marryatt, and B. Gray. 1984. Structure of *Pleistophora hippoglossoides* Bosanquet in the American plaice *Hippoglossoides platessoides* (Fabricius). *J. Parasit.* 70: 412-421. S 3356. (8)
- Morrison, J. A. see Raymond, B. A.
- Morrison, J. A. see Russell, L. R.
- Morrison, M. L. see Norton, S. A.
- Muir, D. C. G., R. L. Corbet, G. R. B. Webster, and A. E. Smith. 1984. Preliminary report on the persistence of 1,3,6,8-TCDD in soils and sediments, p. 137-145. In P. N. P. Chow, and C. A. Grant (eds.) *Herbicide activity in plants and soils. Proc. 11th Workshop on Chemistry and Biochemistry of Herbicides*, 19-20 April 1983, Brandon, Man. S 3415. (4)
- Muir, D. C. G., D. Lint, and N. P. Grift. 1985. Fate of three phosphate ester flame retardants in small ponds. *Environ. Toxicol. Chem.* 4: 663-675. S 3533. (4)
- Muir, D. C. G., W. K. Marshall, and G. R. B. Webster. 1985. Bioconcentration of PCDDs by fish: effects of molecular structure and water chemistry. *Chemosphere* 14: 829-833. S 3551. (4)
- Muir, D. C. G., G. P. Rawn, and N. P. Grift. 1985. Fate of the pyrethroid insecticide deltamethrin in small ponds: a mass balance study. *J. Agri. Food Chem.* 33: 603-609. S 3508. (4)
- Muir, D. C. G., G. P. Rawn, B. E. Townsend, W. L. Lockhart, and R. Greenhalgh. 1985. Bioconcentration of cypermethrin, deltamethrin, fenvalerate and permethrin by *Chironomus tentans* larvae in sediment and water. *Environ. Toxicol. Chem.* 4: 51-61. S 3422. (4)
- Muir, D. C. G., B. E. Townsend, and G. R. B. Webster. 1985. Bioavailability of <sup>14</sup>C-1,3,6,8-tetrachlorodibenzo-p-dioxin and <sup>14</sup>C-octachlorodibenzo-p-dioxin to aquatic insects in sediment and water, p. 89-102. In L. H. Keith, C. Rappe, and G. Choudhary (eds.) *Chlorinated dioxins and dibenzofurans in the total environment. Vol. II.* Butterworth, Boston. S 3401. (4)
- Muir, D. C. G., A. L. Yarechewski, R. L. Corbet, G. R. B. Webster, and A. E. Smith. 1985. Laboratory and field studies on the fate of 1,3,6,8-tetrachlorodibenzo-p-dioxin in soil and sediments. *J. Agric. Food Chem.* 33: 518-523. S 3499. (4)
- Muir, D. C. G. see Reiger, A. W.
- Mullen, B. see Angus, R. B.
- Mungall, J. C. H. see Benoit, J. R.
- Munro, A. L. S. see Liversidge, J.
- Munro, G. R. see Charles, A. T.
- Munro, K. A., S. C. Samis, and M. D. Nassichuk. 1985. The effects of hatchery effluents on water chemistry, periphyton and benthic invertebrates of selected British Columbia streams. *Can. MS Rep. Fish. Aquat. Sci.* 1830: 203 p. (12)

- Munteanu, E. M., O. Onetiu, and O. Rotaru. 1980. Evaluation of methods for diagnosing *Myxosoma cerebralis* infection of salmonidae. Can. Transl. Fish. Aquat. Sci. 5117: 10 p. (Translated from Roumanian: Rev. Cresterea Anim. 8: 44-48.)
- Murakami, Y. 1978. Research concerning Myxosporidia parasitic on the nervous tissue of *yamame* and *amago* - I. (Morphology of spores and region parasitized). Can. Transl. Fish. Aquat. Sci. 5160: 3 p. (Translated from Japanese: Hiroshima-ken Tansuigyo Shidoso Jigyo Jisseki, p. 15.)
- Murakami, Y. 1978. Research concerning Myxosporidia parasitic on the nervous tissue of *yamame* and *amago* - II. (Distribution and time of appearance of fish parasitized by Sporidia in Hiroshima Prefecture). Can. Transl. Fish. Aquat. Sci. 5161: 4 p. (Translated from Japanese: Hiroshima-ken Tansuigyo Shidoso Jigyo Jisseki, p. 16.)
- Murakami, Y. 1978. Research concerning sleeping sickness (provisional appellation) in cultured *yamame* and *amago* - I. (Investigation of conditions of occurrence and etiology). Can. Transl. Fish. Aquat. Sci. 5159: 4 p. (Translated from Japanese: Hiroshima-ken Tansuigyo Shidoso Jigyo Jisseki, p. 14.)
- Murakhveri, A. M. see Volkhov, Yu.P.
- Murkin, E. J. see McNicol, R. E.
- Murkin, E. J. see Scherer, E.
- Murphy, A. D. see Stevenson, S. C.
- Murphy, L. F. see Tyler, A. V.
- Murphy, M. C. see Tyler, A. V.
- Murray, C. B. see Beacham, T. D.
- Murty, T. S. see Barber, F. G.
- Myers, M. see Rhodes, L.
- Mykytiuk, A. see Bewers, J. M.
- N
- Nagtegaal, D. A. 1983. A golden-yellow colored sablefish, *Anoplopoma fimbria*, caught off Quatsino Sound, British Columbia. Can. Field-Nat. 97: 106. S 3368. (1)
- Nagtegaal, D. A., B. M. Leaman, and R. D. Stanley. 1985. Pacific ocean perch data collected during jointly funded cruises aboard the M/V *Ocean Selector* (August 10-22) and the M/V *Free Enterprise No. 1* (July 31-August 9) 1983. Can. Data Rep. Fish. Aquat. Sci. 525: 10 p. (1)
- Nagtegaal, D. A. see Leaman, B. M.
- Naiman, R. J. see McCormick, S. D.
- Nakamura, K. see Iida, H.
- Nakazono, T. see Kadowaki, S.
- Nalepa, T. F. see Gardner, W. S.
- Nalewajko, C., and B. Paul. 1985. Effects of manipulations of aluminum concentrations and pH on phosphate uptake and photosynthesis of planktonic communities in two Precambrian Shield lakes. Can. J. Fish. Aquat. Sci. 42: 1946-1953.
- Narver, D. W. see Alderdice, D. F.
- Naser El'-Din, Kh., and G. P. Svyatogor. 1982. The development of twins from overripe roe in the loach. Can. Transl. Fish. Aquat. Sci. 5175: 8 p. (Translated from Russian: Biol. Nauki (5): 45-48.)
- Nassichuk, M. D., P. G. Futer, J. H. Patterson, and I. K. Birtwell. 1984. Water and sediment chemistry characteristics of the Tilbury and Deas Slough regions of the Fraser River. Can. Data Rep. Fish. Aquat. Sci. 492: 72 p. (12)
- Nassichuk, M. D. see Munro, K. A.
- Nassichuk, M. D. see Servizi, J. A.
- Nazarenko, Yu.I. 1967. Feeding of the ringed seal of the European north of the USSR. Can. Transl. Fish. Aquat. Sci. 5166: 9 p. (Translated from Russian: Tr. Polyarn. Nauchno-issled. Proektn. Inst. Morsk. Rybn. Khoz. Okeanogr. (21): 81-85.)
- Nazarenko, Yu.I. 1984. Biology and exploitation of the White Sea harp seal population. Can. Transl. Fish. Aquat. Sci. 5141: 13 p. (Translated from Russian: Morskie mlekopitayushchie, p. 109-117, "Nauka" Publishing House, Moscow, U.S.S.R.)
- Neal, P. R. see Deriso, R. B.
- Neilson, J. D., G. H. Geen, and D. Bottom. 1985. Estuarine growth of juvenile chinook salmon (*Oncorhynchus tshawytscha*) as inferred from otolith microstructure. Can. J. Fish. Aquat. Sci. 42: 899-908.
- Neilson, J. D. see Campana, S. E.
- Neilson, J. D. see da Silva, J. D.
- Neilson, R. W. P. see Ellis, K.
- Neville, C. M. 1985. Physiological response of juvenile rainbow trout, *Salmo gairdneri*, to acid and aluminum - prediction of field

- responses from laboratory data. *Can. J. Fish. Aquat. Sci.* 42: 2004-2019.
- Ni, I-H., and W. Templeman. 1985. Reproductive cycles of redbfishes (*Sebastes*) in southern Newfoundland waters. *J. Northw. Atl. Fish. Sci.* 6: 57-63. S 3554. (9)
- Ni, I-H. *see* Bourgeois, C. E.
- Ni, I-H. *see* Power, D. J.
- Nielsen, L. A. *see* Wahl, D. H.
- Nielsen, O. *see* Kelly, R. K.
- Niimi, A. J. 1985. Use of laboratory studies in assessing the behavior of contaminants in fish inhabiting natural ecosystems. *Water Poll. Res. J. Can.* 20: 79-88. S 3427. (11)
- Niimi, A. J., and V. Palazzo. 1985. Temperature effect on the elimination of pentachlorophenol, hexachlorobenzene and mirex by rainbow trout (*Salmo gairdneri*). *Water Res.* 19: 205-207. S 3411. (11)
- Niimi, A. J. *see* Lowe-Jinde, L.
- Niimi, A. J. *see* Oliver, B. G.
- Nishimoto, R. *see* Laurs, R. M.
- Nolting, R. F. *see* Bewers, J. M.
- Northcote, T. G. *see* Berg, L.
- Northcote, T. G. *see* Henderson, M. A.
- Northcote, T. G. *see* Hume, J. M. B.
- Norton, S. A., C. T. Hess, G. M. Blake, M. L. Morrison, and J. Baron. 1985. Excess unsupported  $^{210}\text{Pb}$  in lake sediment from Rocky Mountain lakes: a groundwater effect. *Can. J. Fish. Aquat. Sci.* 42: 1249-1254.
- Norwegian Canning Industry Laboratory. 1984. Containerization of sprats - trials, 1983 season. *Can. Transl. Fish. Aquat. Sci.* 5113: 10 p. (Translated from Norwegian: Annual Report 1983, Norwegian Canning Industry Laboratory, Stavanger, Norway: 24-26.)
- Nybo, G. 1985. The profitability study into fish farms in 1983. *Can. Transl. Fish. Aquat. Sci.* 5184: 11 p. (Translated from Norwegian: *Fisk. Gang* (15/16): 527-530.)
- O
- Oakey, N. S. *see* Lewis, M. R.
- O'Boyle, R. N. *see* Sinclair, M.
- O'Brien, J. P. *see* O'Connell, M. F.
- O'Connell, G. W. *see* Levings, C. D.
- O'Connell, M. F., C. W. Andrews, J. P. O'Brien, and E. G. Dawe. 1984. Aspects of the ecology of the fishes of Holyrood Pond: a coastal lake with occasional access to the sea located in St. Mary's Bay, Newfoundland. *Int. Revue ges. Hydrobiol.* 69: 333-360. S 3516. (9)
- Odense, P. H. *see* Hurley, G. V.
- O'Dor, R. K. *see* Hurley, G. V.
- Ohshima, T., and C. Koizumi. 1983. Accumulation of lysophosphatidylcholine and lysophosphatidylethanolamine in muscle of fresh skipjack. *Can. Transl. Fish. Aquat. Sci.* 5145: 16 p. (Translated from Japanese: *Bull. Jpn. Soc. Sci. Fish.* 49(8): 1205-1212.)
- Ohshima, T., S. Wada, and C. Koizumi. 1983. Deterioration of phospholipids of skipjack muscle during ice storage: mainly concerning to enzymatic hydrolysis of phosphatidylcholine. *Can. Transl. Fish. Aquat. Sci.* 5146: 13 p. (Translated from Japanese: *Bull. Jpn. Soc. Sci. Fish.* 49(8): 1213-1219.)
- Ohshima, T., S. Wada, and C. Koizumi. 1984. Enzymatic hydrolysis of phospholipids in cod flesh during storage in ice. *Can. Transl. Fish. Aquat. Sci.* 5144: 17 p. (Translated from Japanese: *Bull. Jpn. Soc. Sci. Fish.* 50(1): 107-114.)
- Økland, Ø. 1984. Fish rearing is profitable and risky. *Can. Transl. Fish. Aquat. Sci.* 5119: 8 p. (Translated from Norwegian: *Fisk. Gang* 13(28): 359-361.)
- Oliver, B. G., and A. J. Niimi. 1984. Rainbow trout bioconcentration of some halogenated aromatics from water at environmental concentrations. *Environ. Toxicol. Chem.* 3: 271-277. S 3328. (11)
- Oliver, B. G., and A. J. Niimi. 1985. Bioconcentration factors of some halogenated organics for rainbow trout: limitations in their use for prediction of environmental residues. *Environ. Sci. Technol.* 19: 842-849. S 3531. (11)
- Olivier, G., T. P. T. Evelyn, and R. Lallier. 1985. Immunity to *Aeromonas salmonicida* in coho salmon (*Oncorhynchus kisutch*) induced by modified Freund's complete adjuvant: its non-specific nature and the probable role of macrophages in the phenomenon, p. 419-432. In *Developmental and comparative immunology*, vol. 9. Pergamon Press Ltd., New York. S 3558. (8)
- Olivier, G., T. P. T. Evelyn, and R. Lallier. 1985. Immunogenicity of vaccines from a

- virulent and an avirulent strain of *Aeromonas salmonicida*. J. Fish Dis. 8: 43-55. S 3559. (8)
- Olla, B. L. see Paszkowski, C. A.
- Olson, O. P. see Rhodes, L.
- O'Neil, S. F., and D. A. B. Swetnam. 1984. Collation of Atlantic salmon sport catch statistics, Maritime Provinces, 1970-79. Can. Data Rep. Fish. Aquat. Sci. 481: 297 p. (8)
- Onetiu, O. see Munteanu, E. M.
- Orman, L. 1985. Upper Dean Channel salmon test fishery, 1984. Can. MS Rep. Fish. Aquat. Sci. 1838: 34 p. (18)
- Orr, J. R., and P. R. Richard. 1985. Information collected from beluga whale (*Delphinapterus leucas*) hunts in Cumberland Sound, Baffin Island, Northwest Territories, 1982-1984. Can. Data Rep. Fish. Aquat. Sci. 490: 32 p. (4)
- Otake, S. see Matsumiya, M.
- Ouellet, P., and J. J. Dodson. 1985. Dispersion and retention of anadromous rainbow smelt (*Osmerus mordax*) larvae in the middle estuary of the St. Lawrence River. Can. J. Fish. Aquat. Sci. 42: 332-341.
- Ouellet, P., and J. J. Dodson. 1985. Tidal exchange of anadromous rainbow smelt (*Osmerus mordax*) larvae between a shallow tributary and the St. Lawrence estuary. Can. J. Fish. Aquat. Sci. 42: 1352-1358.
- Ouzilleau, J. see Langlois, C.
- P
- Paal, M. see Paulsen, H.
- Paerl, H. W. see Bowles, N. D.
- Palazzo, V. see Niimi, A. J.
- Palermo, R. V. 1984. Determination of sample size requirements to analyze the age structure of the British Columbia chinook salmon catch. Can. Tech. Rep. Fish. Aquat. Sci. 1335: 11 p. (12)
- Paloheimo, J. E. see Fulthorpe, R. R.
- Paranjape, M. A., R. J. Conover, G. C. Harding, and N. J. Prouse. 1985. Micro- and macrozooplankton on the Nova Scotian Shelf in the prespring bloom period: a comparison of their potential resource utilization. Can. J. Fish. Aquat. Sci. 42: 1484-1492.
- Parele, E. 1983. Oligochaete fauna of small Latvian rivers under conditions of human activity. Can. Transl. Fish. Aquat. Sci. 5157: 7 p. (Translated from Russian: A. Kangur (ed.) Biologiya presnovodnykh organizmov Severozapada SSSR. Gidrobiol. Issled. 14: 46-50. Institute of Zoology and Botany, Academy of Sciences of the Estonian SSR, Tallin, U.S.S.R.)
- Parrott, G. A. see Ward, W. J.
- Parslow, J. S. see Evans, G. T.
- Parsons, T. R. see Harrison, P. J.
- Paszkowski, C. A., and B. L. Olla. 1985. Foraging behavior of hatchery-produced coho salmon (*Oncorhynchus kisutch*) smolts on live prey. Can. J. Fish. Aquat. Sci. 42: 1915-1921.
- Patalas, K. see Salki, A.
- Patterson, J. H. see Nassichuk, M. D.
- Paul, B. see Nalewajko, C.
- Paulsen, H., and M. Paal. 1984. Lewis acid catalysed synthesis of di- and tri-saccharide sequences in O- and N-glycoproteins. The use of trimethylsilyltrifluoromethanesulfonate. Can. Transl. Fish. Aquat. Sci. 5148: 23 p. (Translated from German: Carbohydr. Res. 135: 53-69.
- Payne, J. F. 1984. Mixed-function oxygenases in biological monitoring programs: review of potential usage in different phyla of aquatic animals, p. 625-655. In G. Persoone, E. Jaspers, and C. Claus (eds.) Ecotoxicological testing for the marine environment. State Univ. Ghent and Inst. Mar. Scient. Res., Bredene, Belgium. S 3458. (9)
- Peart, J. L. see Tabata, S.
- Pella, L. G. see Servizi, J. A.
- Penney, R. W., and G. T. Evans. 1985. Growth histories of larval redfish (*Sebastes* spp.) on an offshore Atlantic fishing bank determined by otolith increment analysis. Can. J. Fish. Aquat. Sci. 42: 1452-1464.
- Pepper, V. A. 1985. Incubateurs à substrat profond — Guide pour la mise en valeur du saumon de l'Atlantique. Publ. spéc. can. sci. halieut. aquat. 71F: 27 p.
- Pepper, V. A., and D. Stansbury. 1985. Weight and length variability of swim-up Atlantic salmon fry as an indicator of incubation efficiency. Prog. Fish-Cult. 47: 27-33. S 3464. (9)
- Percy, J. A. 1985. Temperature tolerance, salinity tolerance, osmoregulation, and water

- permeability of arctic marine isopods of the *Mesidotea* (= *Saduria*) complex. *Can. J. Zool.* 63: 28-36. S 3410. (5)
- Percy, J. A., and F. J. Fife. 1984. Summertime abundance and depth distribution of macrozooplankton in Frobisher Bay, N.W.T. from 1978 to 1983. *Can. Data Rep. Fish. Aquat. Sci.* 503: 63 p. (5)
- Percy, J. A., and F. J. Fife. 1985. Energy distribution in an Arctic coastal macrozooplankton community. *Arctic* 38: 39-42. S 3486. (5)
- Percy, J. A., and P. G. Wells. 1985. Effects of petroleum in polar marine environments. *Mar. Technol. Soc. J.* 18(3): 11 p. S 3432. (5)
- Percy, J. A. *see* Wells, P. G.
- Peterman, R. M. 1985. Patterns of interannual variation in age at maturity of sockeye salmon (*Oncorhynchus nerka*) in Alaska and British Columbia. *Can. J. Fish. Aquat. Sci.* 42: 1595-1607.
- Peterman, R. M. *see* Argue, A. W.
- Peters, G. T., D. S. Cherry, and J. Cairns Jr. 1985. Responses of *Isonychia bicolor* to alkaline pH: an evaluation of survival, oxygen consumption, and chloride cell ultrastructure. *Can. J. Fish. Aquat. Sci.* 42: 1088-1095.
- Petersen, R. C. *see* Minshall, G. W.
- Peterson, H. G., and F. P. Healey. 1985. Comparative pH dependent metal inhibition of nutrient uptake by *Scenedesmus quadricauda* (Chlorophyceae). *J. Phycol.* 21: 217-222. S 3479. (4)
- Peterson, N. P. *see* Cederholm, C. J.
- Peterson, R. H., J. L. Metcalfe, and S. Ray. 1985. Uptake of cadmium by eggs and alevins of Atlantic salmon (*Salmo salar*) as influenced by acidic conditions. *Bull. Environ. Contam. Toxicol.* 34: 359-368. S 3430. (6)
- Petrie, B., and A. Isenior. 1984. An analysis of satellite tracked drifter observations collected in the Grand Banks region. *Can. Tech. Rep. Hydrogr. Ocean Sci.* 39: 69 p. (7)
- Petrie, B. *see* Dobson, D.
- Phillips, A. C. *see* Mason, J. C.
- Pierson, D. C., and C. H. Taylor. 1985. Influence of snowcover development and ground freezing on cation loss from a wetland watershed during spring runoff. *Can. J. Fish. Aquat. Sci.* 42: 1979-1985.
- Pilleri, G. 1983. In Baffin Land to study the narwhal (*Monodon monoceros*). *Can. Transl. Fish. Aquat. Sci.* 5192: 140 p. (Translated from German: Verlag des Hirnanatomischen Instituts, Ostermundigen, Berne (Switzerland): 102 p.)
- Pinhorn, A. T. 1984. Inshore exploitation of Atlantic cod, *Gadus morhua*, in Labrador and eastern Newfoundland waters. *J. Northw. Atl. Fish. Sci.* 5: 79-84. S 3339. (9)
- Pinhorn, A. T., and R. G. Halliday. 1985. A framework for identifying fisheries management problems associated with the influence of environmental factors on distribution and migration of marine species. *NAFO Sci. Coun. Studies* 8: 83-92. S 3453. (9)
- Pinkewycz, N. *see* Hsiao, S. I. C.
- Plant, S. (compiler). 1985. Bay of Fundy environmental and tidal power bibliography (second edition). *Can. Tech. Rep. Fish. Aquat. Sci.* 1339: 430 p. (7)
- Platt, T. 1984. Primary productivity in the central North Pacific: comparison of oxygen and carbon fluxes. *Deep-Sea Res.* 31: 1311-1319. S 3418. (7)
- Platt, T. 1985. Phytoplankton production in oligotrophic marine ecosystems: the Mediterranean Sea, p. 231-245. In Moraitou-Apostolopoulou, and V. Kiortsis (eds.) *Mediterranean marine ecosystems*. Plenum Publ. Corp., New York. S 3419. (7)
- Platt, T., M. Lewis, and R. Geider. 1984. Thermodynamics of the pelagic ecosystem: elementary closure conditions for biological production in the open ocean, p. 49-84. In M. J. R. Fasham (ed.) *Flows of energy and materials in marine ecosystems*. Plenum Publ. Corp., New York. S 3335. (7)
- Platt, T. *see* Fasham, M. J. R.
- Platt, T. *see* Harrison, W. G.
- Platt, T. *see* Lewis, M. R.
- Platt, T. *see* Smith, J. C.
- Platt, T. *see* Smith, R. E. H.
- Platt, T. *see* Subba Rao, D. V.
- Platt, T. *see* Ulanowicz, R. E.
- Plotnikoff, M. D. *see* Higgs, D. A.
- Pocklington, R. 1985. Organic matter in the



- Gulf of St. Lawrence in winter. Can. J. Fish. Aquat. Sci. 42: 1556-1561.
- Pocklington, R. *see* Gassmann, G.
- Pohle, G. *see* Roff, J. C.
- Polar, S. M. *see* Aiken, D. E.
- Popov, V. N. *see* Delyamure, S. L.
- Porter, R. 1985. An overview of DFO Research Branch. Spawner 1985: 73-77. S 3562. (9)
- Porter, R. 1985. Seal for salmon enhancement. Spawner 1985: 82. S 3563. (9)
- Power, D. J., and I-H. Ni. 1985. Morphometric differences between golden redfish (*Sebastes marinus*) and beaked redfishes (*S. mentella* and *S. fasciatus*). J. Northw. Atl. Fish. Sci. 6: 1-7. S 3553. (9)
- Power, J. *see* Wildish, D. J.
- Powles, H. *see* Henri, M.
- Pratt, H. L. Jr. *see* Casey, J. G.
- Prepas, E. E. *see* Babin, J.
- Prepas, E. E. *see* Bierhuizen, J. F. H.
- Prepas, E. E. *see* Riley, E. T.
- Price, E. E., and M. C. Swift. 1985. Inter- and intra-specific variability in the response of zooplankton to acid stress. Can. J. Fish. Aquat. Sci. 42: 1749-1754.
- Prince, E. D., D. W. Lee, and J. C. Javech. 1985. Internal zonations in sections of vertebrae from Atlantic bluefin tuna, *Thunnus thynnus*, and their potential use in age determination. Can. J. Fish. Aquat. Sci. 42: 938-946.
- Pringle, J. D. 1985. The human factor in fishery resource management. Can. J. Fish. Aquat. Sci. 42: 389-392.
- Prokopowich, J. *see* Linsey, G. A.
- Prosperi-Porta, L. *see* Evelyn, T. P. T.
- Prouse, N. J. *see* Paranjape, M. A.
- Provost, J., L. Verret et P. Dumont. 1984. L'aloise savoureuse au Québec: synthèse des connaissances biologiques et perspectives d'aménagement d'habitats. Rapp. manus. can. sci. halieut. aquat. 1793F: 114 p. (13)
- Purdy, E. J. Jr. *see* Mathur, D.
- Pyle, S. W. *see* Cipriano, R. C.
- Quinn, T. J. II. 1985. Catch-per-unit effort: a statistical model for Pacific halibut (*Hippoglossus stenolepis*). Can. J. Fish. Aquat. Sci. 42: 1423-1429.
- Quinn, T. J. II. *see* Deriso, R. B.
- R
- Rajaratnam, N., and C. Katopodis. 1984. Hydraulics of Denil fishways. J. Hydraul. Eng. 110: 1219-1233. S 3330. (4)
- Rajaratnam, N. *see* Katopodis, C.
- Ramlal, P. S., J. W. M. Rudd, A. Furutani, and L. Xun. 1985. The effect of pH on methyl mercury production and decomposition in lake sediments. Can. J. Fish. Aquat. Sci. 42: 685-692.
- Ramsden, D., D. Whitfield, and G. Holloway. 1985. Spectral transform simulations of turbulent flows, with geophysical applications. Can. Tech. Rep. Hydrogr. Ocean Sci. 57: 54 p. (14)
- Rankin, L. *see* Vermeer, K.
- Rankin, P. *see* Hyatt, K. D.
- Rasmussen, J. B. 1985. Effects of density and microdetritus enrichment on the growth of chironomid larvae in a small pond. Can. J. Fish. Aquat. Sci. 42: 1418-1422.
- Rawn, G. P. *see* Muir, D. C. G.
- Ray, S., M. Woodside, V. E. Jerome, and H. Akagi. 1984. Copper, zinc, cadmium, and lead in scallops (*Placopecten magellanicus*) from Georges and Browns banks. Chemosphere 13: 1247-1254. S 3361. (6)
- Ray, S. *see* Peterson, R. H.
- Raymond, B. A., M. M. Wayne, and J. A. Morrison. 1985. Vegetation, invertebrate distribution and fish utilization of the Campbell River estuary, British Columbia. Can. MS Rep. Fish. Aquat. Sci. 1829: 46 p. (12)
- Raymond, J. L. (ed.). 1985. Scotia-Fundy Region fishing community profiles. Can. Data Rep. Fish. Aquat. Sci. 540: 461 p. (8)
- Read, A. J. *see* Gaskin, D. E.
- Read, C. J. *see* Roberge, M. M.
- Redalje, D. G. *see* Laws, E. A.
- Reddin, D. G., and W. H. Lear. 1984. Seasonal trends in the biological characteristics of

- Atlantic salmon (*Salmo salar* L.) catches in the 1974-76 commercial fishery at Portugal Cove, Newfoundland. Can. Tech. Rep. Fish. Aquat. Sci. 1323: 88 p. (9)
- Reddin, D. G., and R. K. Misra. 1985. Hotelling's  $T^2$  to identify the origin of Atlantic salmon (*Salmo salar*) in a mixed-stock fishery. Can. J. Fish. Aquat. Sci. 42: 250-255.
- Reed, M. G. see Taylor, D. A.
- Reed, W. J. see Charles, A. T.
- Reeves, R. R., and E. D. Mitchell. 1984. Catch history and initial population of white whales (*Delphinapterus leucas*) in the River and Gulf of St. Lawrence, eastern Canada. Natur. can. (Rev. Ecol. Syst.) 111: 63-121. S 3371. (5)
- Regier, H. A., and A. P. Grima. 1985. Fishery resource allocation: an exploratory essay. Can. J. Fish. Aquat. Sci. 42: 845-859.
- Regier, L. W. see Ke, P. J.
- Regier, A. W., D. C. G. Muir, and M. R. Hendzel. 1985. Gas chromatographic determination of picloram in fish. J. Assoc. Off. Anal. Chem. 68: 59-61. S 3405. (4)
- Reinhardt, R. see Markert, J. R.
- Reinsch, H.-H., and M. Stein. 1985. Argentinidae: *Argentina silus* - Goldlachs. Can. Transl. Fish. Aquat. Sci. 5162: 3 p. (Translated from German: Bundesforschungsanst. Fisch., Hamb. (35): 34.)
- Reish, R. L., R. B. Deriso, D. Ruppert, and R. J. Carroll. 1985. An investigation of the population dynamics of Atlantic menhaden (*Brevoortia tyrannus*). Can. J. Fish. Aquat. Sci. 42(Suppl.1): 147-157.
- Reish, R. L. see Ruppert, D.
- Renaud, C. B. see Vladyskov, V. D.
- Rhodes, L., E. Casillas, B. McKnight, W. Gronlund, M. Myers, O. P. Olson, and B. McCain. 1985. Interactive effects of cadmium, polychlorinated biphenyls, and fuel oil on experimentally exposed English sole (*Parophrys vetulus*). Can. J. Fish. Aquat. Sci. 42: 1870-1880.
- Rice, J. C. see Evans, G. T.
- Richard, P. R. see Orr, J. R.
- Richards, L. J. 1983. Feeding and activity patterns of an intertidal beetle. J. Exp. Mar. Biol. Ecol. 73: 213-224. S 3350. (1)
- Richards, L. J. 1983. Hunger and the optimal diet. Am. Nat. 122: 326-334. S 3349. (1)
- Richards, L. J., and A. J. Cass. 1985. Transect counts of rockfish in the Strait of Georgia from the submersible PISCES IV, October and November 1984. Can. Data Rep. Fish. Aquat. Sci. 511: 99 p. (1)
- Richards, L. J., A. J. Cass, J. R. Selsby, R. van den Broek, and S. D. Loynachan. 1985. A summary of research catch and effort data for nearshore reef-fishes collected during 1984 in MSA 15 and 16 of the Strait of Georgia. Can. MS Rep. Fish. Aquat. Sci. 1833: 69 p. (1)
- Richards, L. J. see McElderry, H.
- Richards, L. J. see McElderry, H. I.
- Richardson, N. L., D. A. Higgs, R. M. Beames, and J. R. McBride. 1985. Influence of dietary calcium, phosphorus, zinc and sodium phytate level on cataract incidence, growth and histopathology in juvenile chinook salmon (*Oncorhynchus tshawytscha*). J. Nutr. 115: 553-567. S 3477. (3)
- Riche, D. P. see Ryan, P. M.
- Riley, E. T., and E. E. Prepas. 1985. Comparison of the phosphorus-chlorophyll relationships in mixed and stratified lakes. Can. J. Fish. Aquat. Sci. 42: 831-835.
- Rindal, O., and K. Julshamn. 1985. Selenium - an important nutrient for salmonids. Can. Transl. Fish. Aquat. Sci. 5195: 6 p. (Translated from Norwegian: Fisk. Gang 9(18): 317-318.)
- Roberge, M. M., and J. B. Dunn. 1985. Biological investigation of Mosquito Lake, Northwest Territories. Can. Data Rep. Fish. Aquat. Sci. 505: 24 p. (4)
- Roberge, M. M., and D. V. Gillman. 1984. Limnological and biological data from 41 lakes along the Ingraham Trail, Northwest Territories, 1979-80. Can. Data Rep. Fish. Aquat. Sci. 473: 56 p. (4)
- Roberge, M. M., G. Low, and C. J. Read. 1985. Investigation of a fall spawning run of lake whitefish into the Little Buffalo River, Northwest Territories. Can. MS Rep. Fish. Aquat. Sci. 1820: 31 p. (4)
- Robert, G. see Sinclair, M.
- Roberts, D. A. see Stevenson, R. J.
- Robinson, S. M. C. see Sloan, N. A.
- Robitaille, J. A., Y. Côté, G. Hayeur et G. Shooner. 1984. Particularités de la reproduction du saumon atlantique (*Salmo*

- salar) dans une partie du réseau Koksoak, en Ungava. Rapp. tech. can. sci. halieut. aquat. 1313F: 33 p. (13)
- Robitaille, J. A., Y. Côté, G. Shooner et G. Hayeur. 1984. Croissance estuarienne du saumon atlantique (*Salmo salar*) dans le fleuve Koksoak, en Ungava. Rapp. tech. can. sci. halieut. aquat. sci. 1314F: 23 p. (13)
- Roddick, D. L. see Sinclair, M.
- Rodman, W. K. see Burns, B. G.
- Roff, J. C., K. G. Davidson, G. Pohle, and M. J. Dadswell. 1984. A guide to the marine flora and fauna of the Bay of Fundy and Scotian Shelf: larval Decapoda:Brachyura. Can. Tech. Rep. Fish. Aquat. Sci. 1322: 57 p. (6)
- Roff, J. C., L. P. Fanning, and A. B. Stasko. 1984. Larval crab (Decapoda:Brachyura) zoeas and megalopas of the Scotian Shelf. Can. Tech. Rep. Fish. Aquat. Sci. 1264: 22 p. (6)
- Roff, J. C. see Davidson, K.
- Rombough, P. J. 1985. Initial egg weight, time to maximum alevin wet weight, and optimal ponding times for chinook salmon (*Oncorhynchus tshawytscha*). Can. J. Fish. Aquat. Sci. 42: 287-291.
- Rombough, P. J., and J. O. T. Jensen. 1985. Reduced water uptake and resistance to deformation in acid-exposed eggs of steelhead *Salmo gairdneri*. Trans. Am. Fish. Soc. 114: 571-576. S 3519. (1)
- Rosberg, G. E., and G. L. Greer. 1985. Migration rate and behaviour of adult sockeye and chum salmon through trained and untrained sections of the lower Fraser River. Can. Tech. Rep. Fish. Aquat. Sci. 1349: 25 p. (3)
- Rosenfeld, L., M. Stocker, and V. Haist. 1985. Summaries of British Columbia herring sampling data for the 1983-84 season. Can. Data Rep. Fish. Aquat. Sci. 502: 227 p. (1)
- Rosenthal, H., and G. Kruner. 1984. Combination of biological water treatment and ozonization in a closed sea-water recycling system. Can. Transl. Fish. Aquat. Sci. 5164: 128 p. (Translated from German: Bundesministerium für Forschung und Technologie, Forschungsbericht M 84-006, Meeresforschung. Fachinformationszentrum, Karlsruhe (FRG), 113 p.)
- Rotaru, O. see Munteanu, E. M.
- Rowell, T. W. see Chaisson, D. R.
- Rowell, T. W. see Hawkins, C. M.
- Roy, N. see Tsoa, E.
- Royal Ministry of Fisheries. 1980. Establishment of regulations for an oil/fish fund in accordance with an attached proposal. Can. Transl. Fish. Aquat. Sci. 5126: 7 p. (Translated from Norwegian: Oslo: 6 p.)
- Ruangpan, L., and Z. Kabata. 1984. An invertebrate host for *Caligus* (Copepoda, Caligidae)? Crustaceana 47: 219-220. S 3364. (1)
- Rublee, W. O. see Milligan, P. A.
- Rudd, J. see Salki, A.
- Rudd, J. W. M. see Furutani, A.
- Rudd, J. W. M. see Kelly, C. A.
- Rudd, J. W. M. see Ramlal, P. S.
- Ruddick, B. R., and A. S. Bennett. 1985. Fine structure and mixing at the edge of a warm core ring. J. Geophys. Res. 90: 8943-8951. S 3548. (7)
- Rudstam, L. G., and J. J. Magnuson. 1985. Predicting the vertical distribution of fish populations: analysis of cisco, *Coregonus artedii*, and yellow perch, *Perca flavescens*. Can. J. Fish. Aquat. Sci. 42: 1178-1188.
- Ruppert, D., R. L. Reish, R. B. Deriso, and R. J. Carroll. 1985. A stochastic population model for managing the Atlantic menhaden (*Brevoortia tyrannus*) fishery and assessing managerial risks. Can. J. Fish. Aquat. Sci. 42: 1371-1379.
- Ruppert, D. see Reish, R. L.
- Rusanov, V. P. 1980. Hydrochemical characteristics of the surface water of the Arctic Basin. Can. Transl. Fish. Aquat. Sci. 5142: 26 p. (Translated from Russian: Biologiya tsentral'nogo Arkticheskogo basseina, p. 15-33. "Nauka" Publishing House, Moscow, U.S.S.R.)
- Russek, E. see Allan, J. D.
- Russell, L. R., and J. A. Morrison. 1985. Sechart Inlet fish habitat inventory. Can. MS Rep. Fish. Aquat. Sci. 1810: 33 p. (1)
- Rutherford, D. see Hyatt, K. D.
- Rutherford, K. see Cass, A. J.
- Rutherford, K. see Shaw, W.
- Ruud-Hansen, J. see Jonsson, B.
- Ryan, P. M. 1984. Age, growth, and food of threespine sticklebacks (*Gasterosteus aculeatus*) in three lakes of central Newfoundland, Canada. Can. Tech. Rep. Fish.

- Aquat. Sci. 1325: 16 p. (9)
- Ryan, P. M., L. J. Cole, and D. P. Riche. 1985. Macrozoobenthos collections from lakes and streams of the Experimental Ponds Area, central Newfoundland, 1977-82. Can. Data Rep. Fish. Aquat. Sci. 514: 100 p. (9)
- Ryan, P. M., and D. Wakeham. 1984. An overview of the physical and chemical limnology of the Experimental Ponds Area, central Newfoundland, 1977-82. Can. Tech. Rep. Fish. Aquat. Sci. 1320: 54 p. (9)
- Ryan, N. see Mork, J.
- S
- Sackmann, T., and B. D. Smiley. 1985. Arctic industrial activities compilation: volume 2; Sverdrup Basin: hydrocarbon exploration 1974 to 1984. Can. Data Rep. Hydrogr. Ocean Sci. 32(2): 181 p. (14)
- Sæther, O. A. 1983. *Oschia dorsenna* n.gen., n.sp. and *Saetheria hirta* n.sp., two new members of the *Harnischia* complex (Diptera: Chironomidae). End. Scand. 14: 395-404. S 3412. (4)
- Sæther, O. A. 1983. A review of holarctic *Gymnometriocnemus* Goetghebuer, 1932, with the description of *Raphidocladus* subgen. n. and *Sublettella* gen. n. (Diptera: Chironomidae). Aquatic Insects 5: 209-226. S 3413. (4)
- Sæther, O. A. 1984. The immatures of *Antillocladius* Sæther, 1981 (Diptera: Chironomidae). Aquatic Insects 6: 1-6. S 3414. (4)
- Salki, A., M. Turner, K. Patalas, J. Rudd, and D. Findlay. 1985. The influence of fish-zooplankton-phytoplankton interactions on the results of selenium toxicity experiments within large enclosures. Can. J. Fish. Aquat. Sci. 42: 1132-1143.
- Sameoto, D., N. A. Cochrane, and A. W. Herman. 1985. Response of biological acoustic backscattering to ships' lights. Can. J. Fish. Aquat. Sci. 42: 1535-1543.
- Samis, S. C. see Munro, K. A.
- Samis, S. C. see Servizi, J. A.
- Samis, S. C. see Sullivan, M. A.
- Samples, K. C., and P. S. Leung. 1985. The effect of production variability on financial risks of freshwater prawn farming in Hawaii. Can. J. Fish. Aquat. Sci. 42: 307-311.
- Santelices, B. 1982. Biological bases for the management of *Lessonia nigrescens* (Phaeophyta, Laminariales) in central Chile. Can. Transl. Fish. Aquat. Sci. 5172: 33 p. (Translated from Spanish: Monogr. Biol. (Chile) (2): 135-150.)
- Sasaki, S., S. Yamamoto, and K. Shimazaki. 1981. Ecological studies on the pomfret (*Brama japonica* Hilgendorf). II. A north-south distribution of the pomfret along longitude 175°30'E in late July. Can. Transl. Fish. Aquat. Sci. 5177: 18 p. (Translated from Japanese: Bull. Fac. Fish. Hokkaido Univ. 32(3): 225-233.)
- Sasaki, S. see Shimazaki, K.
- Sato, K. see Iida, H.
- Sato, S. Post-1941. Studies on the lampreys of Hokkaido. Can. Transl. Fish. Aquat. Sci. 5180: 20 p. (Translated from Japanese: Suisankagaku Kenkyusho Gyoseki (46): 54-62.)
- Saunders, M. see Shaw, W.
- Saunders, M. W., G. A. McFarlane, and M. S. Smith. 1985. Results of spiny dogfish (*Squalus acanthias*) tagging in British Columbia waters during 1982 and 1983. Can. Data Rep. Fish. Aquat. Sci. 515: 228 p. (1)
- Saunders, M. W. see Westrheim, S. J.
- Saunders, R. L., E. B. Henderson, and P. R. Harmon. 1985. Effects of photoperiod on juvenile growth and smolting of Atlantic salmon and subsequent survival and growth in sea cages. Aquaculture 45: 55-66. S 3476. (6)
- Saunders, R. L., S. D. McCormick, E. B. Henderson, J. G. Eales, and C. E. Johnston. 1985. The effect of orally administered 3,5,3'-triiodo-L-thyronine on growth and salinity tolerance of Atlantic salmon (*Salmo salar* L.). Aquaculture 45: 143-156. S 3475. (6)
- Saunders, R. L., and C. B. Schom. 1985. Importance of the variation in life history parameters of Atlantic salmon (*Salmo salar*). Can. J. Fish. Aquat. Sci. 42: 615-618.
- Saunders, R. L. see Bailey, J. K.
- Savoy, T. F. see Crecco, V. A.
- Scarsbrook, J. R. see Shaw, W.
- Scarsbrook, R. see Shaw, W.
- Schafer, C. T. see Smith, J. N.
- Schafran, G. C. see Effler, S. W.
- Schauer, P. S., and K. L. Simpson. 1985.

- Bioaccumulation and bioconversion of dietary labeled fatty acids in *Artemia* and winter flounder (*Pseudopleuronectes americanus*). Can. J. Fish. Aquat. Sci. 42: 1430-1438.
- Schelske, C. L., D. J. Conley, and W. F. Warwick. 1985. Historical relationships between phosphorus loading and biogenic silica accumulation in Bay of Quinte sediments. Can. J. Fish. Aquat. Sci. 42: 1401-1409.
- Schelske, C. L. see Stoermer, E. F.
- Scherer, E., R. E. McNicol, and E. J. Murkin. 1984. Observations on habitat selection and partitioning by brook charr, *Salvelinus fontinalis* (Mitchill), in the South Duck River, a Manitoba woodland stream. Can. MS Rep. Fish. Aquat. Sci. 1788: 8 p. (4)
- Scherer, E. see Jones, K. A.
- Scherer, E. see Majewski, H. S.
- Scherer, E. see McNicol, R. E.
- Scheuring, L. 1915. Observations on parasitism of pelagic juvenile fish. Can. Transl. Fish. Aquat. Sci. 5120: 14 p. (Translated from German: Biol. Centralbl. Leipzig 35: 181-190.)
- Schiewe, M. H., E. G. Hawk, D. I. Actor, and M. M. Krahn. 1985. Use of a bacterial bioluminescence assay to assess toxicity of contaminated marine sediments. Can. J. Fish. Aquat. Sci. 42: 1244-1248.
- Schindler, D. W., K. H. Mills, D. F. Malley, D. L. Findlay, J. A. Shearer, I. J. Davies, M. A. Turner, G. A. Linsey, and D. R. Cruikshank. Long-term ecosystem stress: the effects of years of experimental acidification on a small lake. Science 228: 1395-1401. S 3484. (4)
- Schindler, D. W., M. A. Turner, and R. H. Hesslein. 1985. Acidification and alkalization of lakes by experimental addition of nitrogen compounds. Biogeochemistry 1: 117-133. S 3469. (4)
- Schindler, D. W. see Shearer, J. A.
- Schlottfeldt, H. J. see Liversidge, J.
- Schmidt, D. see Bowers, J. M.
- Schnute, J. 1985. A general theory for analysis of catch and effort data. Can. J. Fish. Aquat. Sci. 42: 414-429.
- Schnute, J. see Jensen, J. O. T.
- Schnute, J. see Mittertreiner, A. C.
- Schom, C. B. see Saunders, R. L.
- Schrank, W. E. see Tsoa, E.
- Schreck, C. B. see Barton, B. A.
- Schubert, N. D. 1984. The Indian food fishery of the Fraser River: 1983 summary. Can. Data Rep. Fish. Aquat. Sci. 479: 67 p. (12)
- Schubert, N. D. 1985. The Indian food fishery of the Fraser River: 1984 summary. Can. Data Rep. Fish. Aquat. Sci. 512: 64 p. (12)
- Schubert, N. D., and A. Y. Fedorenko. 1985. Trapping and coded wire tagging of wild coho salmon juveniles in the upper Pitt River system, 1979 and 1980. Can. MS Rep. Fish. Aquat. Sci. 1815: 78 p. (12)
- Schwalme, K., W. C. Mackay, and D. Lindner. 1985. Suitability of vertical slot and Denil fishways for passing north-temperate, nonsalmonid fish. Can. J. Fish. Aquat. Sci. 42: 1815-1822.
- Schweigert, J. F., and C. W. Haegeler. 1984. Herring stock estimates from diving surveys of spawn for the north coast of British Columbia in 1982. Can. MS Rep. Fish. Aquat. Sci. 1795: 43 p. (1)
- Schweigert, J. F., C. W. Haegeler, and M. Stocker. 1985. Optimizing sampling design for herring spawn surveys in the Strait of Georgia, B.C. Can. J. Fish. Aquat. Sci. 42: 1806-1814.
- Schweigert, J. F. see Haegeler, C. W.
- Schweigert, J. F. see Haist, V.
- Scott, J. S. 1985. Digenean (Trematoda) populations in winter flounder (*Pseudopleuronectes americanus*) from Passamaquoddy Bay, New Brunswick, Canada. Can. J. Zool. 63: 1699-1705. S 3497. (6)
- Scott, J. S. 1985. Occurrence of alimentary tract helminth parasites of pollock (*Pollachius virens* L.) on the Scotian Shelf. Can. J. Zool. 63: 1695-1698. S 3502. (6)
- Scott, J. S. see Mahon, R.
- Scott, K. R., and L. Allard. 1984. A four-tank water recirculation system with a hydrocyclone prefilter and a single water reconditioning unit. Prog. Fish-Cult. 46: 254-261. S 3403. (4)
- Seaman, K. D. see Macdonald, J. S.
- Sebring, L. L. see Tyler, A. V.
- Sedell, J. R. see Minshall, G. W.
- Sefton, H. see Denman, K.



- Seip, H. M., R. Seip, P. J. Dillon, and E. de Grosbois. 1985. Model of sulphate concentration in a small stream in the Harp Lake catchment, Ontario. *Can. J. Fish. Aquat. Sci.* 42: 927-937.
- Seip, R. *see* Seip, H. M.
- Selsby, J. R. 1984. An all-purpose lifting bar for fisheries operations. *Prog. Fish-Cult.* 46: 148-150. S 3348. (1)
- Selsby, J. R. *see* Richards, L. J.
- Serbic, G., A. Alexander, F. Y. C. Wong, and M. Birch. 1985. Index of salmon spawning streams of British Columbia. *Can. Data Rep. Fish. Aquat. Sci.* 506: 115 p. (1)
- Serebryakov, V. P. *see* Barsukov, V. V.
- Sergeant, D. E. *see* Addison, R. F.
- Sergienko, N. I. *see* Ivankov, V. N.
- Servizi, J. A., R. W. Gordon, S. C. Samis, L. G. Pella, M. A. Sullivan, and M. D. Nassichuk. 1985. Survey of selected streams for sensitivity to acidification from the proposed Hat Creek coal development. *Can. Tech. Rep. Fish. Aquat. Sci.* 1389: 76 p. (12)
- Servizi, J. A. *see* Sullivan, M. A.
- Shaw, D. H., and M. J. Squires. 1984. O-antigen structure in a virulent strain of *Aeromonas hydrophila*. *FEMS Microbiol. Lett.* 24: 277-280. S 3338. (9)
- Shaw, D. H. *see* Banoub, J. H.
- Shaw, D. H. *see* Michon, F.
- Shaw, W., G. A. McFarlane, I. Barber, K. Rutherford, A. Cass, M. Saunders, R. Scarsbrook, and M. Smith. 1985. Biological survey of Pacific hake, walleye pollock, and spiny dogfish in selected inshore areas and in the open waters of the Strait of Georgia. *R/V G.B. Reed*, February 7-28 and April 18-24, 1983. *Can. Data Rep. Fish. Aquat. Sci.* 500: 240 p. (1)
- Shaw, W., G. A. McFarlane, D. Davenport, and W. T. Andrews. 1985. Distribution and abundance of larval sablefish (*Anoplopoma fimbria*) in the surface waters off the west coast of Vancouver Island, April 16 to May 10, 1984. *Can. MS Rep. Fish. Aquat. Sci.* 1835: 41 p. (1)
- Shaw, W., G. A. McFarlane, J. R. Scarsbrook, M. S. Smith, and W. T. Andrews. 1985. Distribution and biology of Pacific hake and walleye pollock off the west coast Vancouver Island and the State of Washington. (August 15-September 5, 1983). *Can. MS Rep. Fish. Aquat. Sci.* 1825: 128 p. (1)
- Shearer, J. A., E. R. DeBruyn, D. R. DeClercq, D. W. Schindler, and E. J. Fee. 1985. Manual of phytoplankton primary production methodology. *Can. Tech. Rep. Fish. Aquat. Sci.* 1341: 58 p. (4)
- Shearer, J. A. *see* Schindler, D. W.
- Shearer, K. D. *see* Hardy, R. W.
- Shelbourn, J. E. *see* Clarke, W. C.
- Sheldon, R. W. 1984. Phytoplankton growth rates in the tropical ocean. *Limnol. Oceanogr.* 29: 1342-1346. S 3378. (7)
- Shepard, C. D. *see* Shepard, M. P.
- Shepard, M. P., C. D. Shepard, and A. W. Argue. 1985. Historic statistics of salmon production around the Pacific Rim. *Can. MS Rep. Fish. Aquat. Sci.* 1819: 297 p. (12)
- Shepard, M. P., C. D. Shepard, and A. W. Argue. 1985. Long term trends in the contributions of salmon from different geographical areas to the commercial fisheries of the north Pacific. *Can. Tech. Rep. Fish. Aquat. Sci.* 1376: 52 p. (12)
- Shepherd, B. G. *see* Fedorenko, A. Y.
- Shields, S. C. *see* Fargo, J.
- Shields, S. C. *see* Westrheim, S. J.
- Shields, T. L., G. S. Jamieson, and P. E. Sprout. 1985. Spawn-on-kelp fisheries in the Queen Charlotte Islands and northern British Columbia coast - 1982 and 1983. *Can. Tech. Rep. Fish. Aquat. Sci.* 1372: 53 p. (1)
- Shileyko, A. A. *see* Kuznetsov, A. P.
- Shimazaki, K., S. Sasaki, and S. Yamamoto. 1981. On the selectivity of gillnet for pomfret. *Can. Transl. Fish. Aquat. Sci.* 5174: 18 p. (Translated from Japanese: *Bull. Fac. Fish. Hokkaido Univ.* 32(1): 52-60.
- Shimazaki, K. *see* Sasaki, S.
- Shooner, G. *see* Lévesque, F.
- Shooner, G. *see* Robitaille, J. A.
- Shortreed, K. S. *see* Stockner, J. G.
- Shotton, R., and G. P. Bazigos. 1984. Techniques and considerations in the design of acoustic surveys. *Rapp. P.-v. Réun. Cons. int. Explor. Mer* 184: 34-57. S 3333. (7)

- Shum, G. see Morrison, C. M.
- Silver, C. A. see Mathur, D.
- Simard, Y. see Ingram, R. G.
- Simpson, K., J. Lettic, and G. Miller. 1985. The archive of salmon data at the Pacific Biological Station. Can. MS Rep. Fish. Aquat. Sci. 1808: 383 p. (1)
- Simpson, K. L. see Schauer, P. S.
- Sinclair, M., V. C. Anthony, T. D. Iles, and R. N. O'Boyle. 1985. Stock assessment problems in Atlantic herring (*Clupea harengus*) in the northwest Atlantic. Can. J. Fish. Aquat. Sci. 42: 888-898.
- Sinclair, M., and T. D. Iles. 1985. Atlantic herring (*Clupea harengus*) distributions in the Gulf of Maine - Scotian Shelf area in relation to oceanographic features. Can. J. Fish. Aquat. Sci. 42: 880-887.
- Sinclair, M., R. K. Mohn, G. Roberts, and D. L. Roddick. 1985. Considerations for the effective management of Atlantic scallops. Can. Tech. Rep. Fish. Aquat. Sci. 1382: 113 p. (8)
- Sinclair, M., M. J. Tremblay, and P. Bernal. 1985. El Niño events and variability in a Pacific mackerel (*Scomber japonicus*) survival index: support for Hjort's second hypothesis. Can. J. Fish. Aquat. Sci. 42: 602-608.
- Sinclair, M. see Tremblay, M. J.
- Singer, R. see Stevenson, R. J.
- Singh, T. P., and E. M. Donaldson. 1985. Characterization of pituitary GTH subfractions from the Indian major carp, *Catla catla*, (abstract - no page available). In 10th International Symposium on Comparative Endocrinology, 21-26 July, 1985, Copper Mountain, CO, USA. S 3520. (3)
- Sleno, G. A. see Smith, T. G.
- Slepukhina, T. 1983. Comparison of various methods of assessing water quality by means of oligochaetes. Can. Transl. Fish. Aquat. Sci. 5158: 9 p. (Translated from Russian: A. Kangur (ed.) Biologiya presnovodnykh organizmov Severozapada SSSR. Gidrobiol. Issled. 14: 51-56. Institute of Zoology and Botany, Academy of Sciences of the Estonian SSR, Tallin, U.S.S.R.)
- Sloan, D. C. see Burns, B. G.
- Sloan, N. A. 1984. Incidence and effects of parasitism by the rhizocephalan barnacle, *Briarosaccus callosus* Boschma, in the golden king crab, *Lithodes aequispina* Benedict, from deep fjords in northern British Columbia, Canada. J. Exp. Mar. Biol. Ecol. 84: 111-131. S 3402. (1)
- Sloan, N. A. 1984. Observations on Portland Inlet system golden king crabs (*Lithodes aequispina*) and their infestation by a rhizocephalan barnacle parasite (*Briarosaccus callosus*). Can. MS Rep. Fish. Aquat. Sci. 1779: 61 p. (1)
- Sloan, N. A. 1985. Life history characteristics of fjord-dwelling golden king crabs *Lithodes aequispina*. Mar. Ecol. Prog. Ser. 22: 219-228. S 3461. (1)
- Sloan, N. A., S. M. Bower, and S. M. C. Robinson. 1984. Cocoon deposition on three crab species and fish parasitism by the leech *Notostomum cyclostoma* from deep fjords in northern British Columbia. Mar. Ecol. Prog. Ser. 20: 51-58. S 3398. (1)
- Sloan, N. A., and C. R. Gunn. 1985. Fishing, processing, and marketing of the jellyfish, *Aurelia aurita* (L.), from southern British Columbia. Can. Ind. Rep. Fish. Aquat. Sci. 157: 29 p. (1)
- Smiley, B. D. see Sackmann, T.
- Smiley, B. D. see Taylor, D. A.
- Smith, A. E. see Muir, D. C. G.
- Smith, D. W. 1985. Biological control of excessive phytoplankton growth and the enhancement of aquacultural production. Can. J. Fish. Aquat. Sci. 42: 1940-1945.
- Smith, D. W. see Cooper, S. D.
- Smith, G. J. D. see Gaskin, D. E.
- Smith, J. C., and T. Platt. 1985. Temperature responses of ribulose biphosphate carboxylase and photosynthetic capacity in arctic and tropical phytoplankton. Mar. Ecol. Prog. Ser. 25: 31-37. S 3549. (7)
- Smith, J. C., T. Platt, W. K. W. Li, E. P. W. Horne, W. G. Harrison, D. V. Subba Rao, and B. D. Irwin. 1985. Arctic marine photoautotrophic picoplankton. Mar. Ecol. Prog. Ser. 20: 207-220. S 3394. (7)
- Smith, J. N., and C. T. Schafer. 1984. Bioturbation processes in continental slope and rise sediments delineated by Pb-210, microfossil and textural indicators. J. Mar. Res. 42: 1117-1145. S 3375. (7)
- Smith, J. N. see Ellis, K.
- Smith, M. see Shaw, W.

- Smith, M. S. *see* Cass, A. J.
- Smith, M. S. *see* Saunders, M. W.
- Smith, M. S. *see* Shaw, W.
- Smith, P. C., V. E. Champagne, A. S. Bennett, and A. W. Herman. 1983. Batfish sections near the edge of the Scotian Shelf, 1976-1977. *Can. Data Rep. Hydrogr. Ocean Sci.* 1: 159 p. (7)
- Smith, P. E. 1985. Year-class strength and survival of O-group clupeoids. *Can. J. Fish. Aquat. Sci.* 42(Suppl.1): 69-82.
- Smith, R. E. H., R. J. Geider, and T. Platt. 1984. Microplankton productivity in the oligotrophic ocean. *Nature* 311: 252-254. S 3347. (7)
- Smith, R. E. H., W. G. Harrison, and L. Harris. 1985. Phosphorus exchange in marine microplankton communities near Hawaii. *Mar. Biol.* 86: 75-84. S 3470. (7)
- Smith, R. G. *see* Bewers, J. M.
- Smith, R. W. *see* Mahon, R.
- Smith, S. D., and E. P. Jones. 1985. Evidence for wind-pumping of air-sea gas exchange based on direct measurements of CO<sub>2</sub> fluxes. *J. Geophys. Res.* 90: 869-875. S 3395. (7)
- Smith, S. D. *see* Dobson, F. W.
- Smith, T. G., M. O. Hammill, D. J. Burrage, and G. A. Sleno. 1985. Distribution and abundance of belugas, *Delphinapterus leucas*, and narwhals, *Monodon monoceros*, in the Canadian high Arctic. *Can. J. Fish. Aquat. Sci.* 42: 676-684.
- Smith, T. G. *see* St. Aubin, D. J.
- Snimshchikova, L. N. 1984. New species of the genus *Peloscolex* (Oligochaeta, Tubificidae) from northern Lake Baikal and their relationship to the earlier known species *Peloscolex werestschagini*. *Can. Transl. Fish. Aquat. Sci.* 5151: 20 p. (Translated from Russian: *Sistematika i evolyutsiya bespozvonochnykh Baikala*, p. 3-15. "Nauka" Publishers, Novosibirsk, U.S.S.R.)
- Solar, I. I., and E. M. Donaldson. 1985. Studies on genetic and hormonal sex control in domesticated rainbow trout. I. The effect of heat shock treatment for induction of triploidy in cultured rainbow trout (*Salmo gairdneri* Richardson). *Can. Tech. Rep. Fish. Aquat. Sci.* 1379: 15 p. (3)
- Solar, I. I., and E. M. Donaldson. 1985. Studies on genetic and hormonal sex control in a domesticated rainbow trout. II. Use of methyltestosterone for masculinization and sterilization in cultured rainbow trout (*Salmo gairdneri* Richardson). *Can. Tech. Rep. Fish. Aquat. Sci.* 1380: 9 p. (3)
- Solar, I. I., E. M. Donaldson, and G. A. Hunter. 1984. Induction of triploidy in rainbow trout (*Salmo gairdneri* Richardson) by heat shock, and investigation of early growth. *Aquaculture* 42: 57-67. S 3344. (3)
- Solar, I. I., E. M. Donaldson, and G. A. Hunter. 1984. Optimization of treatment regimes for controlled sex differentiation and sterilization in wild rainbow trout (*Salmo gairdneri* Richardson) by oral administration of 17 $\alpha$ -methyltestosterone. *Aquaculture* 42: 129-139. S 3365. (3)
- Solmie, A. *see* Damon, W.
- Solmie, A. *see* Kreiberg, H.
- Solomon, K. R., J. Y. Yoo, D. Lean, N. K. Kaushik, K. E. Day, and G. L. Stephenson. 1985. Dissipation of permethrin in limnocorals. *Can. J. Fish. Aquat. Sci.* 42: 70-76.
- Solomon, K. R. *see* Kaushik, N. K.
- Soluk, D. A. 1985. Macroinvertebrate abundance and production of psammophilous Chironomidae in shifting sand areas of a lowland river. *Can. J. Fish. Aquat. Sci.* 42: 1296-1302.
- Souter, B. W., A. G. Dwirow, K. Knight, and T. Yamamoto. 1984. Infectious pancreatic necrosis virus: isolation from asymptomatic wild Arctic char (*Salvelinus alpinus* L.). *J. Wildl. Dis.* 20: 338-339. S 3444. (4)
- Souza, L. *see* Gill, J. A.
- Speas, J. *see* Hedrick, R. P.
- Sprague, J. B. *see* Bradley, R. W.
- Sprout, P. E. 1985. Catch information from salmon seine charter in Area 6, July 9 - August 2, 1984. *Can. Data Rep. Fish. Aquat. Sci.* 507: 20 p. (2)
- Sprout, P. E. *see* Shields, T. L.
- Sprules, W. G. *see* Wong, C. K.
- Spry, D. J., and C. M. Wood. 1985. Ion flux rates, acid-base status, and blood gases in rainbow trout, *Salmo gairdneri*, exposed to toxic zinc in natural soft water. *Can. J. Fish. Aquat. Sci.* 42: 1332-1341.
- Spry, D. J. *see* Hodson, P. V.

- Squiers, T. S. *see* Dadswell, M. J.
- Squires, B. E. *see* Botta, J. R.
- Squires, M. J. *see* Shaw, D. H.
- St. Aubin, D. J., J. R. Geraci, T. G. Smith, and T. G. Friesen. 1985. How do bottlenose dolphins, *Tursiops truncatus*, react to oil films under different light conditions? *Can. J. Fish. Aquat. Sci.* 42: 430-436.
- Ståhl, G. *see* Mork, J.
- Stainton, M. P. *see* Linsey, G. A.
- Staley, M. J. *see* Argue, A. W.
- Stanford, R. M. *see* Burton, T. M.
- Stanhope, M. J., and C. D. Levings. 1985. Growth and production of *Eogammarus confervicolus* (Amphipoda: Anisogammaridae) at a log storage site and in areas of undisturbed habitat within the Squamish estuary, British Columbia. *Can. J. Fish. Aquat. Sci.* 42: 1733-1740.
- Stanley, R. D. 1984. Incidental catch of halibut (*Hippoglossus stenolepis*) by domestic trawlers in Queen Charlotte Sound and Hecate Strait, in 1981 and 1982. *Can. Tech. Rep. Fish. Aquat. Sci.* 1318: 45 p. (1)
- Stanley, R. D. 1985. A study of bottom-trawl discards in Queen Charlotte Sound and Hecate Strait, 1981 and 1982. *Can. MS Rep. Fish. Aquat. Sci.* 1840: 67 p. (1)
- Stanley, R. D. *see* Leaman, B. M.
- Stanley, R. D. *see* Nagtegaal, D. A.
- Stansbury, D. *see* Pepper, V. A.
- Starkel, W. M. 1985. Predicting the effect of macrobenthos on the sediment/water flux of metals and phosphorus. *Can. J. Fish. Aquat. Sci.* 42: 95-100.
- Starr, P. J., A. T. Charles, and M. A. Henderson. 1984. Reconstruction of British Columbia sockeye salmon (*Oncorhynchus nerka*) stocks: 1970-1982. *Can. MS Rep. Fish. Aquat. Sci.* 1780: 123 p. (12)
- Stasko, A. B. *see* Caddy, J. F.
- Stasko, A. B. *see* Campbell, A.
- Stasko, A. B. *see* Roff, J. C.
- Statzner, B., and B. Higler. 1985. Questions and comments on the River Continuum Concept. *Can. J. Fish. Aquat. Sci.* 42: 1038-1044.
- Stead, R. B. *see* Stevenson, S. C.
- Stebbins, S. *see* Fargo, J.
- Stein, M. *see* Reinsch, H.-H.
- Stein, R. A. *see* Bevelhimer, M. S.
- Steinberg, C. 1984. Structure and price determination in Maritimes port markets: a study of fishermen/buyer relations. *Can. Ind. Rep. Fish. Aquat. Sci.* 149: 52 p. (10)
- Stephenson, G. L. *see* Kaushik, N. K.
- Stephenson, G. L. *see* Solomon, K. R.
- Stevenson, R. J., R. Singer, D. A. Roberts, and C. W. Boylen. 1985. Patterns of benthic algal abundance with depth, trophic status, and acidity in poorly buffered New Hampshire lakes. *Can. J. Fish. Aquat. Sci.* 42: 1501-1512.
- Stevenson, S. C., A. D. Murphy, and R. B. Stead. 1984. Report on the cod by-catch in the 1981-83 Newfoundland capelin trap fisheries. *Can. Tech. Rep. Fish. Aquat. Sci.* 1310: 15 p. (9)
- Stillwell, C. E. *see* Casey, J. G.
- Stirling, I. *see* Calvert, W.
- Stirling, I. *see* Kingsley, M. C. S.
- Stocker, M., V. Haist, and D. Fournier. 1985. Environmental variation and recruitment of Pacific herring (*Clupea harengus pallasii*) in the Strait of Georgia. *Can. J. Fish. Aquat. Sci.* 42(Suppl.1): 174-180.
- Stocker, M. *see* Haist, V.
- Stocker, M. *see* Rosenfeld, L.
- Stocker, M. *see* Schweigert, J. F.
- Stockner, J. G., and K. D. Hyatt. 1984. Lake fertilization: state of the art after 7 years of application. *Can. Tech. Rep. Fish. Aquat. Sci.* 1324: 33 p. (3)
- Stockner, J. G., and K. S. Shortreed. 1985. Whole-lake fertilization experiments in coastal British Columbia lakes: empirical relationships between nutrient inputs and phytoplankton biomass and production. *Can. J. Fish. Aquat. Sci.* 42: 649-658.
- Stockner, J. G. *see* Hyatt, K. D.
- Stockner, J. G. *see* MacIsaac, E. A.
- Stoecker, D. K., and G. T. Evans. 1985. Effects of protozoan herbivory and carnivory in a microplankton food web. *Mar. Ecol. Prog. Ser.* 25: 159-167. S 3526. (9)

- Stoermer, E. F., J. A. Wolin, C. L. Schelske, and D. J. Conley. 1985. Postsettlement diatom succession in the Bay of Quinte, Lake Ontario. *Can. J. Fish. Aquat. Sci.* 42: 754-767.
- Stokes, P. M. *see* Campbell, P. G. C.
- Stokes, P. M. *see* Krantzberg, G.
- Stuart, V., E. J. H. Head, and K. H. Mann. 1985. Seasonal changes in the digestive enzyme levels of the amphipod *Corophium volutator* (Pallas) in relation to diet. *J. Exp. Mar. Biol. Ecol.* 88: 243-256. S 3496. (7)
- Stucchi, D. J. *see* Lee, A. Y. P.
- Subba Rao, D. V., and T. Platt. 1984. Primary production of arctic waters. *Polar Biol.* 3: 191-201. S 3372. (7)
- Subba Rao, D. V., and P. A. Yeats. 1984. Effect of iron on phytoplankton production in the Sargasso Sea. *J. Exp. Mar. Biol. Ecol.* 81: 281-289. S 3334. (7)
- Subba Rao, D. V. *see* Smith, J. C.
- Sullivan, D. S. *see* Antia, N. J.
- Sullivan, M. A., S. C. Samis, J. A. Servizi, and R. W. Gordon. 1985. Survey of selected British Columbia and Yukon salmon streams for sensitivity to acidification from precipitation. *Can. Tech. Rep. Fish. Aquat. Sci.* 1388: 105 p. (12)
- Sullivan, M. A. *see* Servizi, J. A.
- Sumpter, J. *see* Fagerlund, U. H. M.
- Sumpter, J. P. *see* Gill, J. A.
- Sundnes, G. *see* Mork, J.
- Svizhenko, V. A. 1983. Analysis of the spectral characteristics of sound signals emitted by pinnipeds. *Can. Transl. Fish. Aquat. Sci.* 5123: 10 p. (Translated from Russian: *Vestn. Zool.* 2: 63-67.)
- Svyatogor, G. P. *see* Naser El'-Din, Kh.
- Swanson, G. M. *see* Lockhart, W. L.
- Swetnam, D. A. B. *see* O'Neil, S. F.
- Swift, M. C. *see* Price, E. E.
- Symons, P. E. K., and M. Waldichuk (eds.). 1984. Proceedings of the workshop on stream indexing for salmon escapement estimation, West Vancouver, B.C., 2 - 3 February 1984. *Can. Tech. Rep. Fish. Aquat. Sci.* 1326: 258 p. (3)
- Syvitski, J. P. M., and C. P. Blakeney (compilers). 1983. Sedimentology of Arctic Fjords Experiment: HU 82-031 data report, Volume 1. *Can. Data Rep. Hydrogr. Ocean Sci.* 12: 935 p. (7)

## T

- Tabata, S., and J. L. Peart. 1985. Statistics of oceanographic data based on hydrographic/STD casts made at Ocean Station P during August 1956 through June 1981. *Can. Data Rep. Hydrogr. Ocean Sci.* 31: 133 p. (14)
- Tait, B. J., and P. A. Bolduc. 1985. An update on rates of apparent vertical movement in the Great Lakes basin, p. 193-206. In *NAVD Symposium '85. Proc. Third International Symposium on the North American Vertical Datum, April 21-26, 1985, Rockville, MD.* S 3490. (10)
- Tanaka, K. *see* Tonogai, Y.
- Tanasichuk, R. W., C. Armstrong, and D. M. Ware. 1985. An improved photo-electric fish egg counter. *Can. J. Fish. Aquat. Sci.* 42: 1255-1258.
- Tang, C. L., A. S. Bennett, and D. J. Lawrence. 1985. Thermohaline intrusions in the frontal zones of a warm-core ring observed by batfish. *J. Geophys. Res.* 90: 8928-8942. S 3544. (7)
- Tarves, M. L. *see* Holmes, P. E.
- Taubert, B. D. *see* Dadswell, M. J.
- Taylor, C. H. *see* Pierson, D. C.
- Taylor, D. A., M. G. Reed, B. D. Smiley, and G. S. Floyd. 1985. Arctic industrial activities compilation: volume 1; Beaufort Sea: marine dredging activities 1959 to 1982. *Can. Data Rep. Hydrogr. Ocean Sci.* 32(1): 192 p. (14)
- Taylor, E. B., and J. D. McPhail. 1985. Variation in body morphology among British Columbia populations of coho salmon, *Oncorhynchus kisutch*. *Can. J. Fish. Aquat. Sci.* 42: 2020-2028.
- Taylor, E. B., and J. D. McPhail. 1985. Variation in burst and prolonged swimming performance among British Columbia populations of coho salmon, *Oncorhynchus kisutch*. *Can. J. Fish. Aquat. Sci.* 42: 2029-2033.
- Taylor, F. H. C. 1984. Distribution and abundance of herring and other pelagic fish off the west coast of Vancouver Island in September, 1981. *Can. Tech. Rep. Fish. Aquat. Sci.* 1333: 43 p. (1)
- Taylor, F. H. C. 1985. Introduction to the International Symposium on the Biological



- Characteristics of Herring and Their Implication for Management. Can. J. Fish. Aquat. Sci. 42(Suppl.1): 2.
- Taylor, F. J. R. *see* Harrison, P. J.
- Taylor, J. D. *see* Barber, F. G.
- Taylor, V. R. 1985. The early Atlantic salmon fishery in Newfoundland and Labrador. Can. Spec. Publ. Fish. Aquat. Sci. 76: 71 p.
- Templeman, W. *see* Ni, I-H.
- Terano, S. *see* Iida, H.
- Tesar, F. J. *see* Jude, D. J.
- Tessier, A. *see* Bates, S. S.
- Tessier, A. *see* Campbell, P. G. C.
- Thomas, M. L. H. *see* Wildish, D. J.
- Thompson, P. A. *see* Harrison, P. J.
- Thomson, R. E., W. R. Crawford, H. J. Freeland, and W. S. Huggett. 1985. Low-pass filtered current meter records for the west coast of Vancouver Island: Coastal Oceanic Dynamics Experiment, 1979-81. Can. Data Rep. Hydrogr. Ocean Sci. 40: 102 p. (14)
- Thomson, R. E., W. R. Crawford, and W. S. Huggett. 1984. Water property observations off the west coast of Vancouver Island during CODE: May 1979 to September 1980. Can. Data Rep. Hydrogr. Ocean Sci. 23(1): 273 p. (14)
- Thomson, R. E., W. R. Crawford, and W. S. Huggett. 1984. Water property observations off the west coast of Vancouver Island during CODE: May 1979 to September 1980. Can. Data Rep. Hydrogr. Ocean Sci. 23(2): 376 p. (14)
- Thomson, R. E., W. R. Crawford, and W. S. Huggett. 1984. Water property observations off the west coast of Vancouver Island during CODE: May 1979 to September 1980. Can. Data Rep. Hydrogr. Ocean Sci. 23(3): 390 p. (14)
- Thonney, J.-P. *see* Gibson, R. J.
- Timm, T. 1983. Distribution routes of some aquatic Oligochaeta. Can. Transl. Fish. Aquat. Sci. 5154: 8 p. (Translated from Russian: A. Kangur (ed.) *Biologiya presnovodnykh organizmov Severozapada SSSR*. *Gidrobiol. Issled.* 14: 25-29. Institute of Zoology and Botany, Academy of Sciences of the Estonian SSR, Tallin, U.S.S.R.)
- Timm, T. 1983. Oligochaeta of the small lakes of southern Karelia. Can. Transl. Fish. Aquat. Sci. 5155: 14 p. (Translated from Russian: A. Kangur (ed.) *Biologiya presnovodnykh organizmov Severozapada SSSR*. *Gidrobiol. Issled.* 14: 30-39. Institute of Zoology and Botany, Academy of Sciences of the Estonian SSR, Tallin, U.S.S.R.)
- Timperley, M. H., R. J. Vigor-Brown, M. Kawashima, and M. Ishigami. 1985. Organic nitrogen compounds in atmospheric precipitation: their chemistry and availability to phytoplankton. Can. J. Fish. Aquat. Sci. 42: 1171-1177.
- Tokunaga, T. *see* Iida, H.
- Tomio, R. *see* Holmes, P. E.
- Tonogai, Y., and K. Tanaka. 1974. On the determination of phosphates in foods. Can. Transl. Fish. Aquat. Sci. 5187: 14 p. (Translated from Japanese: J. Food Hyg. Soc. Jpn. 15(5): 331-336.)
- Topliss, B. J. 1984. Remote sensing to bathymetry: an investigation into the effect of bottom reflectance on passive upwelling spectral irradiance. Can. Tech. Rep. Hydrogr. Ocean Sci. 42: 21 p. (7)
- Townsend, B. E. *see* Muir, D. C. G.
- Townsend, R. E. 1985. The right to fish as an external benefit of open access. Can. J. Fish. Aquat. Sci. 42: 2050-2053.
- Trashchenkov, A. N. *see* Delyamure, S. L.
- Traxler, G. S. *see* Bell, G. R.
- Tremblay, M. J. et J. T. Anderson. 1985. Liste annotée des espèces de copépodes planctoniques marins présents sur la plate-forme et la pente supérieure continentales de l'Atlantique nord-ouest (du golfe du Maine à la baie d'Ungava). Publ. spéc. can. sci. halieut. aquat. 69F: 12 p.
- Tremblay, M. J., and M. Sinclair. 1985. Gulf of St. Lawrence cod: age-specific geographic distributions and environmental occurrences from 1971 to 1981. Can. Tech. Rep. Fish. Aquat. Sci. 1387: 43 p. (8)
- Tremblay, M. J. *see* Sinclair, M.
- Trider, D. J. *see* Kean, J. C.
- Trites, R. W., D. R. McLain, and M. C. Ingham. 1985. Sea-surface temperatures along the continental shelf from Cape Hatteras to Hamilton Bank. NAFO Sci. Coun. Studies 8: 21-23. S 3447. (7)
- Trites, R. W. *see* Lawrence, D. J.
- Trumble, R. J., and R. D. Humphreys. 1985. Management of Pacific herring (*Clupea harengus pallasii*) in the eastern Pacific

- Ocean. Can. J. Fish. Aquat. Sci. 42(Suppl.1): 230-244.
- Truquet, M., and G. Michel. 1983. *Aeromonas salmonicida*: causal agent of furunculosis in salmonids. Identification and therapeutic experimentation *in vitro*. Can. Transl. Fish. Aquat. Sci. 5193: 10 p. (Translated from French: Bull. Fr. Piscic. 291: 191-196.)
- Tsoa, E., W. E. Schrank, and N. Roy. 1985. Generalizing fisheries models: an extension of the Schaefer analysis. Can. J. Fish. Aquat. Sci. 42: 44-50.
- Tucker, J. see Bowles, N. D.
- Tuomi, A. L. W. (ed.) 1985. Transactions of the 1984 Canadian Sport Fisheries Conference - Canada's sport fisheries: getting ready for the 1990's/Comptes rendus de la Conférence canadienne de la pêche sportive de 1984 - la pêche sportive au Canada: vers les années 1990. Can. Spec. Publ. Fish. Aquat. Sci. 82/ Publ. spéc. can. sci. halieut. aquat. 82: 338 p.
- Turner, L. J., and W. C. Mackay. 1985. Use of visual census for estimating population size in northern pike (*Esox lucius*). Can. J. Fish. Aquat. Sci. 42: 1835-1840.
- Turner, M. see Salki, A.
- Turner, M. A. see Schindler, D. W.
- Tyler, A. V., and G. A. McFarlane (eds.). 1985. Groundfish stock assessments for the west coast of Canada in 1984 and recommended yield options for 1985. Can. MS Rep. Fish. Aquat. Sci. 1813: 353 p. (1)
- Tyler, A. V., L. L. Sebring, M. C. Murphy, and L. F. Murphy. 1985. A sensitivity analysis of Deriso's delay-difference equation using simulation. Can. J. Fish. Aquat. Sci. 42: 836-841.
- Tyler, A. V. see Fargo, J.
- Tyler, A. V. see Westrheim, S. J.
- U
- Ueno, K. 1985. Sterility and secondary sexual characters of triploid *Gnathopogon elongatus caerulescens*. Can. Transl. Fish. Aquat. Sci. 5178: 12 p. (Translated from Japanese: Suisan Ikushu (10): 37-41.)
- Uhazy, L. S., D. E. Aiken, and A. Campbell. 1985. Morphology and systematics of the nemertean *Pseudocarcinonemertes homari* (Hoploneurtea: Monostilifera) from the American lobster, *Homarus americanus*. Can. J. Fish. Aquat. Sci. 42: 342-350.
- Uhazy, L. S. see Aiken, D. E.
- Uhazy, L. S. see Bratney, J.
- Ulanowicz, R. E., and T. Platt (eds.). 1985. Ecosystem theory for biological oceanography. Can. Bull. Fish. Aquat. Sci. 213: 260 p.
- Utter, F. see Mork, J.
- Utter, F. M. see Campton, D. E.
- Uttormark, P. D., and M. L. Hutchins. 1985. Cellular phosphorus concentration as a criterion for trophic status in rapidly flushed lakes. Can. J. Fish. Aquat. Sci. 42: 300-306.
- V
- Vahl, O. see Venvik, T.
- Van Coillie, R. see Lachance, M.
- van de Poll, H. W. see Caddy, J. F.
- van den Broek, R. see Richards, L. J.
- van Densen, W. L. T. see Lammens, E. H. R. R.
- Van der Kraak, G., H. M. Dye, E. M. Donaldson, and G. A. Hunter. 1985. Plasma gonadotropin, 17 $\beta$ -estradiol, and 17 $\alpha$ ,20 $\beta$ -dihydroxy-4-pregmen-3-one levels during luteinizing hormone-releasing hormone analogue and gonadotropin induced ovulation in coho salmon (*Oncorhynchus kisutch*). Can. J. Zool. 63: 824-833. S 3491. (3)
- Van der Kraak, G., and E. M. Donaldson. 1985. Properties of gonadotropin binding sites in ovarian tissue from Pacific salmon, (no pages available). In 10th International Symposium on Comparative Endocrinology, 21-26 July, 1985, Copper Mountain, CO. S 3521. (3)
- Van der Kraak, G. see Donaldson, E. M.
- Van Tine, J. see Fagerlund, U. H. M.
- Van Tine, J. see Markert, J. R.
- Van Tyne, J. see Bilton, H. T.
- Vandermeulen, J. H., and E. S. Gilfillan. 1985. Petroleum pollution, corals and mangroves. Mar. Technol. Soc. J. 18(3): 11 p. S 3433. (7)
- Vannote, R. L. see Minshall, G. W.
- Varma, H. P. 1984. Field testing of the Hewlett-Packard 7914 Winchester disk aboard C.S.S. Baffin. Can. Data Rep. Hydrogr. Ocean Sci. 18: 11 p. (7)

- Vedernikov, V. I. 1982. The assimilation number and its variations in the cultures and natural populations of marine phytoplankton. Can. Transl. Fish. Aquat. Sci. 5122: 35 p. (Translated from Russian: Tr. Inst. Okeanol. Akad. Nauk SSSR 114: 92-112.)
- Venkov, T., and O. Vahl. 1979. Opportunities and limitations for harvesting and processing Iceland scallops. Can. Transl. Fish. Aquat. Sci. 5191: 76 p. (Translated from Norwegian: Serie E: Fiskeriteknologi nr. 2/79. Universitetet i Tromsø, Tromsø (Norway): 52 p.)
- Vermeer, K. 1985. A five-year summary (1978-1982) of the nestling diet of Cassin's Auklets in British Columbia. Can. Tech. Rep. Hydrogr. Ocean Sci. 56: 15 p. (14)
- Vermeer, K., and L. Rankin. 1984. Pelagic seabird populations in Hecate Strait and Queen Charlotte Sound: comparison with the west coast of the Queen Charlotte Islands. Can. Tech. Rep. Hydrogr. Ocean Sci. 52: 40 p. (14)
- Vermeer, K., and S. J. Westrheim. 1982. Fish changes in diets of nestling rhinoceros auklets and their implications, p. 96-105. In D. N. Nettleship, G. A. Sanger, and P. F. Springer (eds.) Marine birds: their feeding ecology and commercial fisheries relationships. Proc. Pacific Seabird Group Symp., 6-8 Jan. 1982, Seattle, WA. S 3383. (1)
- Verret, L. see Provost, J.
- Vigg, S. see Estep, M. L. F.
- Vigneault, Y. see Langlois, C.
- Vigneault, Y. see LeJeune, R.
- Vigor-Brown, R. J. see Timperley, M. H.
- Vijverberg, J. see Lammens, E. H. R. R.
- Vladykov, V. D., C. B. Renaud, and S. Laframboise. 1985. Breeding tubercles in three species of *Gadus* (cods). Can. J. Fish. Aquat. Sci. 42: 608-615.
- Vogt, N. B. see Knutsen, H.
- Volkov, Yu. P., A. A. Dadaev, V. S. Levin, and A. M. Murakhveri. 1982. Changes in the distribution of the "Yezo scallop" (*Pecten yessoensis*) and starfishes after mass planting of the scallop on the bottom of Vityaz Bay (Sea of Japan). Can. Transl. Fish. Aquat. Sci. 5165: 13 p. (Translated from Russian: Biol. Morya (Vladivostok)/Mar. Biol. (Vladivostok.) (4): 37-43.)
- Wada, S. see Ohshima, T.
- Waddy, S. L., and D. E. Aiken. 1984. Seed stock for lobster culture: the role of temperature in synchronizing the molt and reproductive cycle of cultured American lobsters. J. World, Maricul. Soc. 15: 132-137. S 3535. (6)
- Waddy, S. L., and D. E. Aiken. 1985. Fertilization and egg retention in artificially inseminated female American lobsters, *Homarus americanus*. Can. J. Fish. Aquat. Sci. 42: 1954-1956.
- Waddy, S. L., and D. E. Aiken. 1985. Immunofluorescent localization of American lobster egg yolk protein in the alimentary tract of the nemertean *Pseudocarcinonemertes homari*. Can. J. Fish. Aquat. Sci. 42: 357-359.
- Waddy, S. L. see Aiken, D. E.
- Waddy, S. L. see Eagles, M. D.
- Wahl, D. H., and L. A. Nielsen. 1985. Feeding ecology of the sauger (*Stizostedion canadense*) in a large river. Can. J. Fish. Aquat. Sci. 42: 120-128.
- Wakeham, D. see Ryan, P. M.
- Walczak, B. Z. 1985. Immune capability of fish: a literature review. Can. Tech. Rep. Fish. Aquat. Sci. 1334: 33 p. (11)
- Waldichuk, M. 1985. Biological availability of metals to marine organisms. Mar. Pollut. Bull. 16: 7-11. S 3445. (3)
- Waldichuk, M. 1985. Book review: G. G. Choudhry, Humic substances. Structural, photophysical, photochemical and free radical aspects and interactions with environmental chemicals. Water, Air, and Soil Pollut. 26: 107-109. S 3538. (3)
- Waldichuk, M. 1985. Book review: H. Edde, Environmental control for pulp and paper mills. Water, Air, and Soil Pollut. 26: 106-197. S 3537. (3)
- Waldichuk, M. 1985. Book review: C. C. Travis, and E. L. Etnier (eds.) Groundwater pollution. Environmental and legal problems. Water, Air, and Soil Pollut. 26: 323-325. S 3529. (3)
- Waldichuk, M. 1985. Methods for measuring the effects of chemicals on aquatic animals as indicators of ecological damage, p. 493-535. In V. B. Vouk, G. C. Butler, D. G. Hoel, and D. B. Peakall (eds.) Methods for estimating

- risk of chemical injury: human and non-human biota and ecosystems. *SCOPE*. S 3472. (3)
- Waldichuk, M. 1985. Roberts Bank coal port, British Columbia: how did the environmental impact assessment fare? *Mar. Pollut. Bull.* 16: 179-185. S 3480. (3)
- Waldichuk, M. *see* Symons, P. E. K.
- Walker, R. E. 1984. Wave statistics for the North Atlantic - 1970 to 1982. *Can. Data Rep. Hydrogr. Ocean Sci.* 16: 291 p. (7)
- Walsh, P. J. *see* Moon, T. W.
- Walters, C. J. 1985. Bias in the estimation of functional relationships from time series data. *Can. J. Fish. Aquat. Sci.* 42: 147-149.
- Walters, C. J., and P. Cahoon. 1985. Evidence of decreasing spatial diversity in British Columbia salmon stocks. *Can. J. Fish. Aquat. Sci.* 42: 1033-1037.
- Walters, C. J. *see* Argue, A. W.
- Walters, C. J. *see* Ludwig, D.
- Wangaard, D. B. *see* Burger, C. V.
- Ward, F. J. *see* Lockhart, W. L.
- Ward, W. J., G. A. Parrott, and D. G. Iredale. 1985. Fish waste as silage for use as an animal feed supplement. *Can. Ind. Rep. Fish. Aquat. Sci.* 158: 10 p. (4)
- Ware, D. M. 1985. Life history characteristics, reproductive value, and resilience of Pacific herring (*Clupea harengus pallasii*). *Can. J. Fish. Aquat. Sci.* 42(Suppl.1): 127-137.
- Ware, D. M., and T. C. Lambert. 1985. Early life history of Atlantic mackerel (*Scomber scombrus*) in the southern Gulf of St. Lawrence. *Can. J. Fish. Aquat. Sci.* 42: 577-592.
- Ware, D. M. *see* Ashton, H. J.
- Ware, D. M. *see* Tanasichuk, R. W.
- Warry, N. D. *see* El-Shaarawi, A. H.
- Warwick, W. F. 1985. Morphological abnormalities in Chironomidae (Diptera) larvae as measures of toxicity stress in freshwater ecosystems: indexing antennal deformities in *Chironomus* Meigen. *Can. J. Fish. Aquat. Sci.* 42: 1881-1914.
- Warwick, W. F. *see* Schelske, C. L.
- Waterhouse, J. C., and M. P. Farrell. 1985. Identifying pollution related changes in chironomid communities as a function of taxonomic rank. *Can. J. Fish. Aquat. Sci.* 42: 406-413.
- Watras, C. J., J. MacFarlane, and F. M. M. Morel. 1985. Nickel accumulation by *Scenedesmus* and *Daphnia*: food-chain transport and geochemical implications. *Can. J. Fish. Aquat. Sci.* 42: 724-730.
- Watts, P. F. *see* Gaskin, D. E.
- Wayne, M. M. *see* Raymond, B. A.
- Webster, G. R. B. *see* Muir, D. C. G.
- Wehr, J. D., and L. M. Brown. 1985. Selenium requirement of a bloom-forming planktonic alga from softwater and acidified lakes. *Can. J. Fish. Aquat. Sci.* 42: 1783-1788.
- Weiner, G. S. *see* Barton, B. A.
- Welch, H. E. 1985. Introduction to limnological research at Sagvajuac, northern Hudson Bay. *Can. J. Fish. Aquat. Sci.* 42: 494-505.
- Welch, H. E., and M. A. Bergmann. 1985. Water circulation in small arctic lakes in winter. *Can. J. Fish. Aquat. Sci.* 42: 506-520.
- Welch, H. E., and M. A. Bergmann. 1985. Winter respiration of lakes at Sagvajuac, N.W.T. *Can. J. Fish. Aquat. Sci.* 42: 521-528.
- Welch, H. E. *see* Bergmann, M. A.
- Wells, P. G., and J. A. Percy. 1985. Effects of oil on Arctic invertebrates, p. 101-156. In F. R. Engelhardt (ed.) *Petroleum effects in the Arctic environment*. Elsevier Sci. Publ. Co., Inc., New York. S 3485. (5)
- Wells, P. G. *see* Percy, J. A.
- Wentworth, B. C. *see* Malison, J. A.
- Wespestad, V. G. *see* Fried, S. M.
- Westerberg, H. *see* Døving, K. B.
- Westerlund, S. *see* Bewers, J. M.
- Westrheim, S. *see* Bakkala, R.
- Westrheim, S. J., and R. P. Foucher. 1985. Relative fishing power for Canadian trawlers landing Pacific cod (*Gadus macrocephalus*) and important shelf cohabitants for major offshore areas of western Canada, 1960-81. *Can. J. Fish. Aquat. Sci.* 42: 1614-1626.
- Westrheim, S. J., A. V. Tyler, R. P. Foucher, M. W. Saunders, and S. C. Shields. 1984. G.B. Reed groundfish cruise no. 84-3, May 24-June 14, 1984. *Can. Data Rep. Fish. Aquat. Sci.*

- 488: 131 p. (1)
- Westrheim, S. J. *see* Foucher, R. P.
- Westrheim, S. J. *see* Vermeer, K.
- Wetherall, J. A. *see* Laurs, R. M.
- Wetzel, M. J. *see* Brinkhurst, R. O.
- Whalen, S. C., and J. C. Cornwell. 1985. Nitrogen, phosphorus, and organic carbon cycling in an arctic lake. *Can. J. Fish. Aquat. Sci.* 42: 797-808.
- Wheeler, J. P. *see* Winters, G. H.
- Whitaker, D. J. *see* Kabata, Z.
- White, A. W. 1984. Paralytic shellfish toxins and finfish, p. 171-180. In E. P. Ragelis (ed.) ACS Symposium Series 262, Seafood toxins. Am. Chem. Soc. S 3357. (6)
- Whitehead, H., and J. E. Carscadden. 1985. Predicting inshore whale abundance - whales and capelin off the Newfoundland coast. *Can. J. Fish. Aquat. Sci.* 42: 976-981.
- Whitehead, P. J. P. 1985. King herring: his place amongst the clupeoids. *Can. J. Fish. Aquat. Sci.* 42(Suppl.1): 3-20.
- Whitfield, D. *see* Ramsden, D.
- Whitney, F. A. (ed.), MEEE Group. 1984. The effects and fate of chemically dispersed crude oil in a marine ecosystem enclosure - data report and methods. *Can. Data Rep. Hydrogr. Ocean Sci.* 29: 77 p. (14)
- Whoriskey, F. G. *see* Gibson, R. J.
- Wildish, D. J. 1985. Geographical distribution of macrofauna on sublittoral sediments of continental shelves: a modified trophic ratio concept, p. 335-345. In P. E. Gibbs (ed.) Proceedings 19th Marine Biology Symposium, September 1984, Plymouth, U.K. Cambridge University Press, U.K. S 3524. (6)
- Wildish, D. J., and M. J. Dadswell. 1985. Sublittoral gammaridean amphipods of soft sediments in the Bay of Fundy. *Proc. N.S. Inst. Sci.* 35: 1-15. S 3568. (6)
- Wildish, D. J., and J. Power. 1985. Avoidance of suspended sediments by smelt as determined by a new "single fish" behavioral bioassay. *Bull. Environ. Contam. Toxicol.* 34: 770-774. S 3462. (6)
- Wildish, D. J., and M. L. H. Thomas. 1985. Effects of dredging and dumping on benthos of Saint John Harbour, Canada. *Mar. Environ. Res.* 15: 45-57. S 3407. (6)
- Wilén, J. E. *see* Anderson, J. L.
- Wilimovsky, N. J. 1985. The need for formalization of decision algorithms and risk levels in fishery research and management. *Can. J. Fish. Aquat. Sci.* 42(Suppl.1): 258-262.
- Wilkinson, P. 1985. The determination of environmental levels of uranium and thorium series isotopes and  $^{137}\text{Cs}$  in aquatic and terrestrial samples. *Can. Spec. Publ. Fish. Aquat. Sci.* 78: 51 p.
- Wilkinson, P. 1985. Détermination des concentrations d'isotopes des familles de l'uranium et du thorium et de  $^{137}\text{Cs}$  dans des échantillons aquatiques et terrestres. *Publ. spéc. can. sci. halieut. aquat.* 78F: 51 p.
- Wilkinson, P. *see* Brunskill, G. J.
- Williams, G. L. *see* Barss, M. S.
- Willis, D. E., and R. F. Addison. 1985. Synthesis of 1- $^{14}\text{C}$ -phenyl-1-(3,4-dimethyl)phenylethane, a component of some PCB replacement materials. *J. Labelled Compounds and Radiopharm.* 22: 705-709. S 3489. (7)
- Wilmot, R. L. *see* Burger, C. V.
- Wilzbach, M. A. 1985. Relative roles of food abundance and cover in determining the habitat distribution of stream-dwelling cutthroat trout (*Salmo clarki*). *Can. J. Fish. Aquat. Sci.* 42: 1668-1672.
- Windom, H. L. *see* Bewers, J. M.
- Winsor, M. *see* Gibson, R. J.
- Winters, G. H., E. L. Dalley, and J. A. Moores. 1985. Fortuity disguised as fisheries management: the case history of Fortune Bay herring. *Can. J. Fish. Aquat. Sci.* 42 (Suppl.1): 263-274.
- Winters, G. H., and J. P. Wheeler. 1985. Interaction between stock area, stock abundance, and catchability coefficient. *Can. J. Fish. Aquat. Sci.* 42: 989-998.
- Withler, F. C., and W. Kwain. 1984. Survey of pink salmon in eastern Lake Superior, 1981. *Can. Tech. Rep. Fish. Aquat. Sci.* 1317: 35 p. (1)
- Withler, F. C. *see* Beacham, T. D.
- Withler, R. E. *see* Beacham, T. D.
- Wolin, J. A. *see* Stoermer, E. F.
- Wong, C. K., and W. G. Sprules. 1985. Size-selective feeding by the predatory copepod



*Epischura lacustris* Forbes. Can. J. Fish. Aquat. Sci. 42: 189-193.

Wong, F. Y. C. see Serbic, G.

Woo, P. see Angus, R. B.

Wood, C. C. 1985. Aggregative response of common mergansers (*Mergus merganser*): predicting flock size and abundance on Vancouver Island salmon streams. Can. J. Fish. Aquat. Sci. 42: 1259-1271.

Wood, C. M. see Spry, D. J.

Wood, F. E. A. see Alderdice, D. F.

Wood, L. W. 1985. Chloroform-methanol extraction of chlorophyll a. Can. J. Fish. Aquat. Sci. 42: 38-43.

Wood, M. see Birtwell, I. K.

Wood, M. J. see Lightly, D. T.

Woods, S. M. (ed.). 1985. Report on Ocean Dumping R and D Pacific Region. Department of Fisheries and Oceans, 1983-84. Can. Contract. Rep. Hydrogr. Ocean Sci. 20: 53 p. (14)

Woodside, M. see Ray, S.

Woodside, M. see Zitko, V.

Wright, D. G., and J. W. Loder. 1985. A depth-dependent study of the topographic rectification of tidal currents. Geophys. Astrophys. Fluid Dynamics 31: 169-220. S 3423. (7)

Wright, D. G. see Loder, J. W.

Wright, J., C. C. Krueger, P. F. Brussard, and M. C. Hall. 1985. Sea lamprey (*Petromyzon marinus*) populations in northeastern North America: genetic differentiation and affinities. Can. J. Fish. Aquat. Sci. 42: 776-784.

Wright, P. B., and W. E. McLean. 1985. The effects of aeration on the rearing of summer chinook fry (*Oncorhynchus tshawytscha*) at the Puntledge Hatchery. Can. Tech. Rep. Fish. Aquat. Sci. 1390: 59 p. (12)

Wright, R. F. 1985. Chemistry of Lake Hovvatn, Norway, following liming and reacidification. Can. J. Fish. Aquat. Sci. 42: 1103-1113.

Wypych, J. see Gill, J. A.

## X

Xun, L. see Ramlal, P. S.

## Y

Yamamoto, S. see Sasaki, S.

Yamamoto, S. see Shimazaki, K.

Yamamoto, T. see Souter, B. W.

Yamashita, Y. see Kadowaki, S.

Yarechewski, A. L. see Muir, D. C. G.

Yaron, Z., A. Bogomolnaya, and E. M. Donaldson. 1985. Stimulation of estradiol secretion by the ovary of *Sarotherodon aureus* as a bioassay for fish gonadotropin, p. 225-228. In B. Lofts, and W. N. Holmes (eds.) Current trends in comparative endocrinology. Hong Kong University Press, Hong Kong. S 3525. (3)

Yearsley, J. R. see Millard, S. P.

Yeats, P. A., and J. M. Bewers. 1985. Manganese in the western North Atlantic Ocean. Mar. Chem. 17: 255-263. S 3527. (7)

Yeats, P. A. see Bewers, J. M.

Yeats, P. A. see Campbell, J. A.

Yeats, P. A. see Dalziel, J. A.

Yeats, P. A. see Subba Rao, D. V.

Yoo, J. Y. see Solomon, K. R.

Yoshida, H. 1979. Research on clarification of Alaska pollack resources in the Bering Sea and waters around the Kamchatka Peninsula. Can. Transl. Fish. Aquat. Sci. 5140: 39 p. (Translated from Japanese: Office of Agriculture, Forestry and Fisheries Research Council, Chapter 3, p. 89-119.)

Young-Lai, W. W. see Charmantier, G.

Yurkowski, M. 1985. A bibliography on the biochemistry, nutrition, and related areas of aquatic mammals and Arctic peoples to 1983. Can. Tech. Rep. Fish. Aquat. Sci. 1361: 236 p. (4)

Yurkowski, M., D. C. Gillespie, D. A. Metner, and W. L. Lockhart. 1985. Nephrocalcinosis and blood chemistry in mature rainbow trout (*Salmo gairdneri*). Can. Tech. Rep. Fish. Aquat. Sci. 1348: 7 p. (4)

## Z

Zado, L. see Chilton, D. E.

Zehle, H. see Bewers, J. M.

- Zhang, C. *see* Bakkala, R.
- Zinck, M. E. *see* Addison, R. F.
- Zitko, V. 1984. Simplex optimization. Can. Tech. Rep. Fish. Aquat. Sci. 1308: 18 p. (6)
- Zitko, V., L. E. Burridge, M. Woodside, and V. Jerome. 1985. Mortalities of juvenile Atlantic salmon caused by the fungicide OBPA. Can. Tech. Rep. Fish. Aquat. Sci. 1358: 26 p. (6)
- Zitko, V., and M. Woodside. 1985. Cationic surfactants in marine fish. Mar. Pollut. Bull. 16: 364-365. S 3564. (6)
- Zouros, E. *see* Mallet, A. L.
- Zwicker, B. *see* Morrison, C. M.

CANADIAN JOURNAL  
OF FISHERIES AND AQUATIC SCIENCES  
JOURNAL CANADIEN  
DES SCIENCES HALIEUTIQUES ET AQUATIQUES

Abbreviation/Abréviation: J

Volume 42 (1985)

No. 1, January/n<sup>o</sup> 1, janvier

- Hilborn, R. Fleet dynamics and individual variation: why some people catch more fish than others. 2-13
- Falk-Petersen, S. Growth of the euphausiids *Thysanoessa inermis*, *Thysanoessa raschii*, and *Meganyctiphanes norvegica* in a subarctic fjord, North Norway. 14-22
- Campbell, P. G. C., A. Tessier, M. Bisson, and R. Bougie. Accumulation of copper and zinc in the yellow water lily, *Nuphar variegatum*: relationships to metal partitioning in the adjacent lake sediments. 23-32
- Gendron, L. Conversion of blade length increments into biomass production estimates in *Laminaria longicruris*. 33-37
- Wood, L. W. Chloroform-methanol extraction of chlorophyll a. 38-43
- Tsoa, E., W. E. Schrank, and N. Roy. Generalizing fisheries models: an extension of the Schaefer analysis. 44-50
- Hilborn, R., and M. Ledbetter. Determinants of catching power in the British Columbia salmon purse seine fleet. 51-56
- Bevelhimer, M. S., R. A. Stein, and R. F. Carline. Assessing significance of physiological differences among three esocids with a bioenergetics model. 57-69
- Solomon, K. R., J. Y. Yoo, D. Lean, N. K. Kaushik, K. E. Day, and G. L. Stephenson. Dissipation of permethrin in limnocorals. 70-76
- Naushik, N. K., G. L. Stephenson, K. R. Solomon, and K. E. Day. Impact of permethrin on zooplankton communities in limnocorals. 77-85
- Bates, S. S., A. Tessier, P. G. C. Campbell, and M. Létourneau. Zinc-phosphorus interactions and variation in zinc accumulation during growth of *Chlamydomonas variabilis* (Chlorophyceae) in batch culture. 86-94
- Starkel, W. M. Predicting the effect of macrobenthos on the sediment/water flux of metals and phosphorus. 95-100
- Hume, J. M. B., and T. G. Northcote. Initial changes in use of space and food by experimentally segregated populations of Dolly Varden (*Salvelinus malma*) and cutthroat trout (*Salmo clarki*). 101-109
- Campton, D. E., and F. M. Utter. Natural hybridization between steelhead trout (*Salmo gairdneri*) and coastal cutthroat trout (*Salmo clarki clarki*) in two Puget Sound streams. 110-119
- Wahl, D. H., and L. A. Nielsen. Feeding ecology of the sauger (*Stizostedion canadense*) in a large river. 120-128
- Mills, K. H. Responses of lake whitefish (*Coregonus clupeaformis*) to fertilization of Lake 226, the Experimental Lakes Area. 129-138
- Culp, J. M., and R. W. Davies. Responses of benthic macroinvertebrate species to manipulation of interstitial detritus in Carnation Creek, British Columbia. 139-146
- Walters, C. J. Bias in the estimation of functional relationships from time series data. 147-149
- Mangel, M., and J. H. Beder. Search and stock depletion: theory and applications. 150-163
- Jensen, A. L. Relations among net reproductive rate and life history parameters for lake whitefish (*Coregonus clupeaformis*). 164-168
- Coulombe, F., J.-C. F. Brêthes, R. Bouchard et G. Desrosiers. Ségrégation édaphique et bathymétrique chez le crabe des neiges, *Chionoecetes opilio* (O. Fabr.), dans le sud-ouest du golfe du Saint-Laurent. 169-180
- Notes
- Hardy, R. W., and K. D. Shearer. Effect of dietary calcium phosphate and zinc supplementation on whole body zinc concentration of rainbow trout (*Salmo gairdneri*). 181-184
- Degani, G., and M. L. Gallagher. Effects of

- dietary 17 $\alpha$ -methyltestosterone and bovine growth hormone on growth and food conversion of slow- and normally-growing American elvers (*Anguilla rostrata*). 185-189
- Wong, C. K., and W. G. Sprules. Size-selective feeding by the predatory copepod *Epischura lacustris* Forbes. 189-193
- Aiken, D. E., and S. L. Waddy. The uncertain influence of spring photoperiod on spawning in the American lobster, *Homarus americanus*. 194-197
- Letters and Comments/Lettres et commentaires
- Aiken, D. E., and S. L. Waddy. Comment on Photoperiodic control of vitellogenesis in the American lobster (*Homarus americanus*): comment on a recent report. 198-199
- Nelson, K., and D. Hedgecock. Reply to Comment on Photoperiodic control of vitellogenesis in the American lobster (*Homarus americanus*): comment on a recent report. 199-200
- Book Reviews/Comptes rendus
- Ring, R. A. The ecology of aquatic insects. (V. H. Resh, and D. M. Rosenberg (eds.)). 201
- Aiken, D. E. Studies in adaptation. The behavior of higher Crustacea. (S. Rebach, and D. W. Dunham (eds.)). 201-202
- 
- No. 2, February/n<sup>o</sup> 2, février
- Allan, J. D., and E. Russek. The quantification of stream drift. 210-215
- Bruce-Allen, L. J., and J. R. Geraci. Wound healing in the bottlenose dolphin (*Tursiops truncatus*). 216-228
- Campbell, A., and A. B. Stasko. Movements of tagged American lobsters, *Homarus americanus*, off southwestern Nova Scotia. 229-238
- Babin, J., and E. E. Prepas. Modelling winter oxygen depletion rates in ice-covered temperate zone lakes in Canada. 239-249
- Reddin, D. G., and R. K. Misra. Hotelling's  $T^2$  to identify the origin of Atlantic salmon (*Salmo salar*) in a mixed-stock fishery. 250-255
- Apostle, R., L. Kasdan, and A. Hanson. Work satisfaction and community attachment among fishermen in southwest Nova Scotia. 256-267
- Mathias, J. A., and J. Barica. Gas supersaturation as a cause of early spring mortality of stocked trout. 268-279
- Hanson, J. M., and W. C. Leggett. Experimental and field evidence for inter- and intraspecific competition in two freshwater fishes. 280-286
- Rombough, P. J. Initial egg weight, time to maximum alevin wet weight, and optimal ponding times for chinook salmon (*Oncorhynchus tshawytscha*). 287-291
- Lacroix, G. L. Survival of eggs and alevins of Atlantic salmon (*Salmo salar*) in relation to the chemistry of interstitial water in redds in some acidic streams of Atlantic Canada. 292-299
- Uttormark, P. D., and M. L. Hutchins. Cellular phosphorus concentration as a criterion for trophic status in rapidly flushed lakes. 300-306
- Samples, K. C., and P. S. Leung. The effect of production variability on financial risks of freshwater prawn farming in Hawaii. 307-311
- Beacham, T. D., and C. B. Murray. Variation in length and body depth of pink salmon (*Oncorhynchus gorbuscha*) and chum salmon (*O. keta*) in southern British Columbia. 312-319
- Hyatt, K. D., and J. G. Stockner. Responses of sockeye salmon (*Oncorhynchus nerka*) to fertilization of British Columbia coastal lakes. 320-331
- Ouellet, P., and J. J. Dodson. Dispersion and retention of anadromous rainbow smelt (*Osmerus mordax*) larvae in the middle estuary of the St. Lawrence River. 332-341
- Uhazy, L. S., D. E. Aiken, and A. Campbell. Morphology and systematics of the nemertean *Pseudocarcinonemertes homari* (Hoploneurtea: Monostilifera) from the American lobster, *Homarus americanus*. 342-350
- Aiken, D. E., S. L. Waddy, and L. S. Uhazy. Aspects of the biology of *Pseudocarcinonemertes homari* and its association with the American lobster, *Homarus americanus*. 351-356
- Waddy, S. L., and D. E. Aiken. Immunofluorescent localization of American lobster egg yolk protein in the alimentary tract of the nemertean *Pseudocarcinonemertes homari*. 357-359
- Bratney, J., A. Campbell, A. E. Bagnall, and L. S. Uhazy. Geographic distribution and seasonal occurrence of the nemertean *Pseudocarcinonemertes homari* on the American lobster, *Homarus americanus*. 360-367

## Notes

- Kean, J. C., J. D. Castell, and D. J. Trider.  
Juvenile lobster (*Homarus americanus*) do not  
require dietary ascorbic acid. 368-370
- Desjardins, L. M., J. D. Castell, and J. C. Kean.  
Synthesis of dehydroascorbic acid by subadult  
lobsters (*Homarus americanus*). 370-373
- Marten, G. G. Radiotracer estimation of  
microbial biomass in lake sediment. 373-379
- Hurley, G. V., P. H. Odense, R. K. O'Dor, and  
E. G. Dawe. Strontium labelling for  
verifying daily growth increments in the  
statolith of the short-finned squid (*Illex  
illecebrosus*). 380-383
- Klotz, R. L. Influence of light on the alkaline  
phosphatase activity of *Selenastrum  
capricornutum* (Chlorophyceae) in streams.  
384-388

## Perspectives

- Pringle, J. D. The human factor in fishery  
resource management. 389-392
- Letters and Comments/Lettres et commentaires
- Hankin, D. G., and R. McKelvey. Comment on  
Fecundity of chinook salmon and its relevance  
to life history theory. 393-394
- Healey, M. C., and W. R. Heard. Reply to Comment  
on Fecundity of chinook salmon and its  
relevance to life history theory. 394-395

## Book Reviews/Comptes rendus

- Risk, M. Marine and coastal systems of the  
Quoddy region, New Brunswick. (M. L. H.  
Thomas (ed.)). 396-397

No. 3, March/n<sup>o</sup> 3, mars

- Waterhouse, J. C., and M. P. Farrell.  
Identifying pollution related changes in  
chironomid communities as a function of  
taxonomic rank. 406-413
- Schnute, J. A general theory for analysis of  
catch and effort data. 414-429
- St. Aubin, D. J., J. R. Geraci, T. G. Smith, and  
T. G. Friesen. How do bottlenose dolphins,  
*Tursiops truncatus*, react to oil films under  
different light conditions? 430-436
- Beacham, T. D., R. E. Withler, and A. P. Gould.

Biochemical genetic stock identification of  
chum salmon (*Oncorhynchus keta*) in southern  
British Columbia. 437-448

- Eck, G. W., and E. H. Brown Jr. Lake Michigan's  
capacity to support lake trout (*Salvelinus  
namaycush*) and other salmonines: an estimate  
based on the status of prey populations in the  
1970s. 449-454
- Dutil, J.-D., B. Légaré et C. Desjardins.  
Discrimination d'un stock de poisson,  
l'anguille (*Anguilla rostrata*), basée sur la  
présence d'un produit chimique de synthèse,  
le mirex. 455-458
- Anderson, J. L., and J. E. Wilen. Estimating the  
population dynamics of coho salmon  
(*Oncorhynchus kisutch*) using pooled time-  
series and cross-sectional data. 459-467
- Cooke, J. G. Estimation of harp seal (*Phoca  
groenlandica*) pup production from age samples.  
468-473
- Davidson, K., J. C. Roff, and R. W. Elner.  
Morphological, electrophoretic, and fecundity  
characteristics of Atlantic snow crab,  
*Chionoecetes opilio*, and implications for  
fisheries management. 474-482
- Hershey, A. E., and M. E. McDonald. Diet and  
digestion rates of slimy sculpin, *Cottus  
cognatus*, in an Alaskan arctic lake. 483-487
- Mellas, E. J., and J. M. Haynes. Swimming  
performance and behavior of rainbow trout  
(*Salmo gairdneri*) and white perch (*Morone  
americana*): effects of attaching telemetry  
transmitters. 488-493
- Welch, H. E. Introduction to limnological  
research at Saqvaquac, northern Hudson Bay.  
494-505
- Welch, H. E., and M. A. Bergmann. Water  
circulation in small arctic lakes in winter.  
506-520
- Welch, H. E., and M. A. Bergmann. Winter  
respiration of lakes at Saqvaquac, N.W.T.  
521-528
- McCormick, S. D., R. J. Naiman, and E. T.  
Montgomery. Physiological smolt  
characteristics of anadromous and non-  
anadromous brook trout (*Salvelinus fontinalis*)  
and Atlantic salmon (*Salmo salar*). 529-538
- Evans, G. T., J. C. Rice, and E. M. P. Chadwick.  
Patterns of growth and smolting of Atlantic  
salmon (*Salmo salar*) parr in a southwestern  
Newfoundland river. 539-543
- Levy, E. M. Background levels of dissolved/  
dispersed petroleum residues in the Gulf of



- St. Lawrence, 1970-79. 544-555
- Boisclair, D., and W. C. Leggett. Rates of food exploitation by littoral fishes in a mesotrophic north-temperate lake. 556-566
- Chow-Fraser, P., and R. Knoechel. Factors regulating in situ filtering rates of Cladocera. 567-576
- Ware, D. M., and T. C. Lambert. Early life history of Atlantic mackerel (*Scomber scombrus*) in the southern Gulf of St. Lawrence. 577-592
- Notes
- Jonsson, B., and J. Ruud-Hansen. Water temperature as the primary influence on timing of seaward migrations of Atlantic salmon (*Salmo salar*) smolts. 593-595
- Grant, J. A method for measuring horizontal transport of organic carbon over sediments. 595-602
- Sinclair, M., M. J. Tremblay, and P. Bernal. El Niño events and variability in a Pacific mackerel (*Scomber japonicus*) survival index: support for Hjort's second hypothesis. 602-608
- Vladykov, V. D., C. B. Renaud, and S. Laframboise. Breeding tubercles in three species of *Gadus* (cods). 608-615
- Saunders, R. L., and C. B. Schom. Importance of the variation in life history parameters of Atlantic salmon (*Salmo salar*). 615-618
- Legault, M. et L.-M. Lalancette. Temps d'ajustement de la flottabilité des saumons atlantiques (*Salmo salar*) et flottabilité comparée de saumons atlantiques d'élevage et sauvages. 619-623
- Book Reviews/Comptes rendus
- Forbes, J. R. A manual of chemical and biological methods for seawater analysis. (T. R. Parsons, Y. Maita, and C. Lalli). 624
- Roff, J. C. A manual on methods for the assessment of secondary productivity in fresh waters. (J. A. Downing, and F. H. Rigler (eds.)). 624-625
- Davis, C. C. Bibliographia. (C.-t. Shih, D. Laubitz, and I. Sunderland (eds.)). 625-626
- induced by toxicants and other irritants: a statistical review. 630-648
- Stockner, J. G., and K. S. Shortreed. Whole-lake fertilization experiments in coastal British Columbia lakes: empirical relationships between nutrient inputs and phytoplankton biomass and production. 649-658
- Hargreaves, N. B., and R. J. LeBrasseur. Species selective predation on juvenile pink (*Oncorhynchus gorbuscha*) and chum salmon (*O. keta*) by coho salmon (*O. kisutch*). 659-668
- Burton, T. M., R. M. Stanford, and J. W. Allan. Acidification effects on stream biota and organic matter processing. 669-675
- Smith, T. G., M. O. Hammill, D. J. Burrage, and G. A. Sleno. Distribution and abundance of belugas, *Delphinapterus leucas*, and narwhals, *Monodon monoceros*, in the Canadian high Arctic. 676-684
- Ramlal, P. S., J. W. M. Rudd, A. Furutani, and L. Xun. The effect of pH on methyl mercury production and decomposition in lake sediments. 685-692
- Burger, C. V., R. L. Wilmot, and D. B. Wangaard. Comparison of spawning areas and times for two runs of chinook salmon (*Oncorhynchus tshawytscha*) in the Kenai River, Alaska. 693-700
- Chambers, P. A., and J. Kalff. Depth distribution and biomass of submersed aquatic macrophyte communities in relation to Secchi depth. 701-709
- Barton, B. A., G. S. Weiner, and C. B. Schreck. Effect of prior acid exposure on physiological responses of juvenile rainbow trout (*Salmo gairdneri*) to acute handling stress. 710-717
- Hilborn, R. Apparent stock recruitment relationships in mixed stock fisheries. 718-723
- Watras, C. J., J. MacFarlane, and F. M. M. Morel. Nickel accumulation by *Scenedesmus* and *Daphnia*: food-chain transport and geochemical implications. 724-730
- Bradley, R. W., and J. B. Sprague. The influence of pH, water hardness, and alkalinity on the acute lethality of zinc to rainbow trout (*Salmo gairdneri*). 731-736
- Horns, W. H. Differences in early development among lake trout (*Salvelinus namaycush*) populations. 737-743
- Hill, S. H., M. R. Abbott, and K. L. Denman. A computer-controlled turbidostat for the culture of planktonic algae. 744-753

Stoermer, E. F., J. A. Wolin, C. L. Schelske, and D. J. Conley. Postsettlement diatom succession in the Bay of Quinte, Lake Ontario. 754-767

Lacroix, G. L., D. J. Gordon, and D. J. Johnston. Effects of low environmental pH on the survival, growth, and ionic composition of postemergent Atlantic salmon (*Salmo salar*). 768-775

Wright, J., C. C. Krueger, P. F. Brussard, and M. C. Hall. Sea lamprey (*Petromyzon marinus*) populations in northeastern North America: genetic differentiation and affinities. 776-784

Henderson, M. A., and T. G. Northcote. Visual prey detection and foraging in sympatric cutthroat trout (*Salmo clarki clarki*) and Dolly Varden (*Salvelinus malma*). 785-790

Coble, D. W., G. B. Farabee, and R. O. Anderson. Comparative learning ability of selected fishes. 791-796

Whalen, S. C., and J. C. Cornwell. Nitrogen, phosphorus, and organic carbon cycling in an arctic lake. 797-808

Cornwell, J. C. Sediment accumulation rates in an Alaskan arctic lake using a modified  $^{210}\text{Pb}$  technique. 809-814

Deriso, R. B., T. J. Quinn II, and P. R. Neal. Catch-age analysis with auxiliary information. 815-824

#### Notes

Mathur, D., W. H. Bason, E. J. Purdy Jr., and C. A. Silver. A critique of the Instream Flow Incremental Methodology. 825-831

Riley, E. T., and E. E. Prepas. Comparison of the phosphorus-chlorophyll relationships in mixed and stratified lakes. 831-835

Tyler, A. V., L. L. Sebring, M. C. Murphy, and L. F. Murphy. A sensitivity analysis of Deriso's delay-difference equation using simulation. 836-841

Hodson, P. V., and D. J. Spry. Effect of sulfite dechlorination on the accumulation of waterborne lead by rainbow trout (*Salmo gairdneri*). 841-844

#### Perspectives

Regier, H. A., and A. P. Grima. Fishery resource allocation: an exploratory essay. 845-859

#### No. 5, May/n<sup>o</sup> 5, mai

Harrison, W. G., T. Platt, and M. R. Lewis. The utility of light-saturation models for estimating marine primary productivity in the field: a comparison with conventional "simulated" in situ methods. 864-872

Berkson, J. M., and D. P. DeMaster. Use of pup counts in indexing population changes in pinnipeds. 873-879

Sinclair, M., and T. D. Iles. Atlantic herring (*Clupea harengus*) distributions in the Gulf of Maine - Scotian Shelf area in relation to oceanographic features. 880-887

Sinclair, M., V. C. Anthony, T. D. Iles, and R. N. O'Boyle. Stock assessment problems in Atlantic herring (*Clupea harengus*) in the northwest Atlantic. 888-898

Neilson, J. D., G. H. Geen, and D. Bottom. Estuarine growth of juvenile chinook salmon (*Oncorhynchus tshawytscha*) as inferred from otolith microstructure. 899-908

Larkin, P. A., and W. D. McKone. An evaluation by field experiments of the McLay model of stream drift. 909-918

Diamond, N., and D. G. Hankin. Movements of adult female Dungeness crabs (*Cancer magister*) in northern California based on tag recoveries. 919-926

Seip, H. M., R. Seip, P. J. Dillon, and E. de Grosbois. Model of sulphate concentration in a small stream in the Harp Lake catchment, Ontario. 927-937

Prince, E. D., D. W. Lee, and J. C. Javech. Internal zonations in sections of vertebrae from Atlantic bluefin tuna, *Thunnus thynnus*, and their potential use in age determination. 938-946

Kilgour, D. M., R. W. McCauley, and W. Kwain. Modeling the lethal effects of high temperature on fish. 947-951

Charles, A. T., and W. J. Reed. A bioeconomic analysis of sequential fisheries: competition, coexistence, and optimal harvest allocation between inshore and offshore fleets. 952-962

Casey, J. G., H. L. Pratt Jr., and C. E. Stillwell. Age and growth of the sandbar shark (*Carcharhinus plumbeus*) from the western North Atlantic. 963-975

Whitehead, H., and J. E. Carscadden. Predicting inshore whale abundance - whales and capelin off the Newfoundland coast. 976-981

Hightower, J. E., and G. D. Crossman. Comparison

of constant effort harvest policies for fish stocks with variable recruitment. 982-988

Winters, G. H., and J. P. Wheeler. Interaction between stock area, stock abundance, and catchability coefficient. 989-998

Gosselin, M., L. Legendre, S. Demers, and R. G. Ingram. Responses of sea-ice microalgae to climatic and fortnightly tidal energy inputs (Manitounuk Sound, Hudson Bay). 999-1006

Dixon, D. G., and J. W. Hilton. Effects of available dietary carbohydrate and water temperature on the chronic toxicity of waterborne copper to rainbow trout (*Salmo gairdneri*). 1007-1013

#### Reviews/Synthèses

Campana, S. E., and J. D. Neilson. Microstructure of fish otoliths. 1014-1032

#### Notes

Walters, C. J., and P. Cahoon. Evidence of decreasing spatial diversity in British Columbia salmon stocks. 1033-1037

#### Perspectives

Statzner, B., and B. Higler. Questions and comments on the River Continuum Concept. 1038-1044

Minshall, G. W., K. W. Cummins, R. C. Petersen, C. E. Cushing, D. A. Bruns, J. R. Sedell, and R. L. Vannote. Developments in stream ecosystem theory. 1045-1055

#### Book Reviews/Comptes rendus

Steedman, R. J., and H. A. Regier. Uncommon sense. The life and thought of Ludwig von Bertalanffy, (1901-1972), father of General Systems Theory. (M. Davidson). 1056-1057

Bullock, G. L. Fish, pathogens and environment in European polyculture. Proceedings of an International Seminar, Szarvas, Hungary, 23-27 June 1981. Symposia Biologica Hungarica. Vol. 23. (J. Olah (ed.)). 1057

Davis, C. C. Zooplankton of the Great Lakes: a guide to the identification and ecology of the common crustacean species. (M. D. Balcer, N. L. Korda, and S. I. Dodson). 1057-1058

Stockner, J. G. Lake sediments and environmental history. (E. Y. Haworth, and J. W. G. Lund (eds.)). 1058

Ross, W. G. Historical whaling records, including the proceedings of the International Workshop on Historical Whaling Records, Sharon, Massachusetts, September 12-16, 1977.

(M. Tillman, and G. P. Donovan (eds.)). 1058-1059

#### No. 6, June/n<sup>o</sup> 6, juin

Ludwig, D., and C. J. Walters. Are age-structured models appropriate for catch-effort data? 1066-1072

Hansen, T. J., and D. Møller. Yolk absorption, yolk sac constrictions, mortality, and growth during first feeding of Atlantic salmon (*Salmo salar*) incubated on astro-turf. 1073-1078

Hamley, J. M., and T. P. Howley. Factors affecting variability of trapnet catches. 1079-1087

Peters, G. T., D. S. Cherry, and J. Cairns Jr. Responses of *Isonychia bicolor* to alkaline pH: an evaluation of survival, oxygen consumption, and chloride cell ultrastructure. 1088-1095

France, R. L. Relationship of crayfish (*Orconectes virilis*) growth to population abundance and system productivity in small oligotrophic lakes in the Experimental Lakes Area, northwestern Ontario. 1096-1102

Wright, R. F. Chemistry of Lake Hovvatn, Norway, following liming and reacidification. 1103-1113

Keast, A. Planktivory in a littoral-dwelling lake fish association: prey selection and seasonality. 1114-1126

Bowles, N. D., H. W. Paerl, and J. Tucker. Effective solvents and extraction periods employed in phytoplankton carotenoid and chlorophyll determinations. 1127-1131

Salki, A., M. Turner, K. Patalas, J. Rudd, and D. Findlay. The influence of fish-zooplankton-phytoplankton interactions on the results of selenium toxicity experiments within large enclosures. 1132-1143

Mason, J. C., and A. C. Phillips. Biology of the bathylagid fish, *Leuroglossus schmidti*, in the Strait of Georgia, British Columbia, Canada. 1144-1153

Jude, D. J., and F. J. Tesar. Recent changes in the inshore forage fish of Lake Michigan. 1154-1157

Fréchette, M., and E. Bourget. Energy flow between the pelagic and benthic zones: factors controlling particulate organic matter

- available to an intertidal mussel bed. 1158-1165
- Fréchette, M., and E. Bourget. Food-limited growth of *Mytilus edulis* in relation to the benthic boundary layer. 1166-1170
- Timperley, M. H., R. J. Vigor-Brown, M. Kawashima, and M. Ishigami. Organic nitrogen compounds in atmospheric precipitation: their chemistry and availability to phytoplankton. 1171-1177
- Rudstam, L. G., and J. J. Magnuson. Predicting the vertical distribution of fish populations: analysis of cisco, *Coregonus artedii*, and yellow perch, *Perca flavescens*. 1178-1188
- Kingsley, M. C. S., I. Stirling, and W. Calvert. The distribution and abundance of seals in the Canadian high Arctic, 1980-82. 1189-1210
- Mahon, R., and E. K. Balon. Fish production in warmwater streams in Poland and Ontario. 1211-1215
- Notes
- Ingram, R. G., L. Legendre, Y. Simard, and S. Lepage. Phytoplankton response to freshwater runoff: the diversion of the Eastmain River, James Bay. 1216-1221
- Cederholm, C. J., and N. P. Peterson. The retention of coho salmon (*Oncorhynchus kisutch*) carcasses by organic debris in small streams. 1222-1225
- Letters and Comments/Lettres et commentaires
- Hodson, P. V. Comment on recent "Perspective" by Michael Gilbertson entitled "Need for development of epidemiology for chemically induced diseases in fish in Canada". 1226-1228
- Gilbertson, M. Reply to Comment on "Need for development of epidemiology for chemically induced diseases in fish in Canada". 1228-1230
- Book Reviews/Comptes rendus
- Geisy, J. P. Toxic contaminants in the Great Lakes. Vol. 14. (J. O. Nriagu, and M. S. Simmons (eds.)). 1231
- Mackas, D. L. Methods in marine zooplankton ecology. (M. Omori, and T. Ikeda). 1232
- distribution of ringed seals (*Phoca hispida*) in the Barrow Strait area, Northwest Territories, determined by underwater vocalizations. 1238-1243
- Schiewe, M. H., E. G. Hawk, D. I. Actor, and M. M. Krahn. Use of a bacterial bioluminescence assay to assess toxicity of contaminated marine sediments. 1244-1248
- Norton, S. A., C. T. Hess, G. M. Blake, M. L. Morrison, and J. Baron. Excess unsupported <sup>210</sup>Pb in lake sediment from Rocky Mountain lakes: a groundwater effect. 1249-1254
- Tanasichuk, R. W., C. Armstrong, and D. M. Ware. An improved photo-electric fish egg counter. 1255-1258
- Wood, C. C. Aggregative response of common mergansers (*Mergus merganser*): predicting flock size and abundance on Vancouver Island salmon streams. 1259-1271
- Antia, N. J., P. J. Harrison, D. S. Sullivan, and T. Bisalputra. Influence of the insecticide Diflubenzuron (Dimilin) on the growth of marine diatoms and a harpacticoid copepod in culture. 1272-1277
- El-Shaarawi, A. H., S. R. Esterby, N. D. Warry, and K. W. Kuntz. Evidence of contaminant loading to Lake Ontario from the Niagara River. 1278-1289
- Cipriano, R. C., and S. W. Pyle. Adjuvant-dependent immunity and the agglutinin response of fishes against *Aeromonas salmonicida*, cause of furunculosis. 1290-1295
- Soluk, D. A. Macroinvertebrate abundance and production of psammophilous Chironomidae in shifting sand areas of a lowland river. 1296-1302
- Carignan, R. Nutrient dynamics in a littoral sediment colonized by the submersed macrophyte *Myriophyllum spicatum*. 1303-1311
- Notes
- Boyce, N. P. Ultrasound imaging used to detect cysts of *Henneguya salminicola* (Protozoa: Myxozoa) in the flesh of whole Pacific salmon. 1312-1314
- Kelso, J. R. M. Standing stock and production of fish in a cascading lake system on the Canadian Shield. 1315-1320
- Hedrick, R. P., J. Speas, M. L. Kent, and T. McDowell. Adenovirus-like particles associated with a disease of cultured white sturgeon, *Acipenser transmontanus*. 1321-1325

## Letters and Comments/Lettres et commentaires

- Brett, J. R. Comment on Correction in use of oxycaloric equivalent. 1326-1327

## Book Reviews/Comptes rendus

- Dillon, P. J. Engineering approaches for lake management, volume 1: data analysis and empirical modeling; volume 2: mechanistic modeling. (K. H. Reckhow, and S. C. Chapra). 1328

*Kisutch*) following short-term pulses of suspended sediment. 1410-1417

- Rasmussen, J. B. Effects of density and microdetritus enrichment on the growth of chironomid larvae in a small pond. 1418-1422

- Quinn, T. J. II. Catch-per-unit-effort: a statistical model for Pacific halibut (*Hippoglossus stenolepis*). 1423-1429

- Schauer, P. S., and K. L. Simpson. Bioaccumulation and bioconversion of dietary labeled fatty acids in *Artemia* and winter flounder (*Pseudopleuronectes americanus*). 1430-1438

## Notes

- da Silva, J., and J. D. Neilson. Limitations of using otoliths recovered in scats to estimate prey consumption in seals. 1439-1442

## Book Reviews/Comptes rendus

- McAllister, D. E. Evolution of fish species flocks. (A. A. Echelle, and I. Kornfield (eds.)). 1443-1444

- Peters, R. H. Trophic interactions within aquatic ecosystems. (D. G. Meyers, and J. R. Strickler (eds.)). 1444-1445

- Brinkhurst, R. O. Methods for the study of marine benthos. 2nd. ed. (N. A. Holme, and A. D. McIntyre (eds.)). 1445-1466

- Sparks, A. K. Diseases of marine animals. II. Introduction (O. Kinne). Bivalva to Scaphopoda (G. Lauckner). (O. Kinne (ed.)). 1446

No. 8, August/n<sup>o</sup> 8, août

- Spry, D. J., and C. M. Wood. Ion flux rates, acid-base status, and blood gases in rainbow trout, *Salmo gairdneri*, exposed to toxic zinc in natural soft water. 1332-1341

- Lammens, E. H. R. R., H. W. de Nie, J. Vijverberg, and W. L. T. van Densen. Resource partitioning and niche shifts of bream (*Abramis brama*) and eel (*Anguilla anguilla*) mediated by predation of smelt (*Osmerus eperlanus*) on *Daphnia hyalina*. 1342-1351

- Ouellet, P., and J. J. Dodson. Tidal exchange of anadromous rainbow smelt (*Osmerus mordax*) larvae between a shallow tributary and the St. Lawrence estuary. 1352-1358

- Elser, J. J., and B. L. Kimmel. Nutrient availability for phytoplankton production in a multiple-impoundment series. 1359-1370

- Ruppert, D., R. L. Reish, R. B. Deriso, and R. J. Carroll. A stochastic population model for managing the Atlantic menhaden (*Brevoortia tyrannus*) fishery and assessing managerial risks. 1371-1379

- Culver, D. A., M. M. Boucherle, D. J. Bean, and J. W. Fletcher. Biomass of freshwater crustacean zooplankton from length-weight regressions. 1380-1390

- Millard, S. P., J. R. Yearsley, and D. P. Lettenmaier. Space-time correlation and its effects on methods for detecting aquatic ecological change. 1391-1400

- Schelske, C. L., D. J. Conley, and W. F. Warwick. Historical relationships between phosphorus loading and biogenic silica accumulation in Bay of Quinte sediments. 1401-1409

- Berg, L., and T. G. Northcote. Changes in territorial, gill-flaring, and feeding behavior in juvenile coho salmon (*Oncorhynchus*

No. 9, September/n<sup>o</sup> 9, septembre

- Penney, R. W., and G. T. Evans. Growth histories of larval redfish (*Sebastes* spp.) on an offshore Atlantic fishing bank determined by otolith increment analysis. 1452-1464

- Krantzberg, G., and P. M. Stokes. Benthic macroinvertebrates modify copper and zinc partitioning in freshwater-sediment microcosms. 1465-1473

- Beacham, T. D., R. E. Withler, and A. P. Gould. Biochemical genetic stock identification of pink salmon (*Oncorhynchus gorbuscha*) in



- southern British Columbia and Puget Sound. 1474-1483
- Paranjape, M. A., R. J. Conover, G. C. Harding, and N. J. Prouse. Micro- and macrozooplankton on the Nova Scotian Shelf in the prespring bloom period: a comparison of their potential resource utilization. 1484-1492
- Fulthorpe, R. R., and J. E. Paloheimo. Hypolimnetic oxygen consumption in small lakes. 1493-1500
- Stevenson, R. J., R. Singer, D. A. Roberts, and C. W. Boylen. Patterns of benthic algal abundance with depth, trophic status, and acidity in poorly buffered New Hampshire lakes. 1501-1512
- Martin, J. H. A., and K. A. Mitchell. Influence of sea temperature upon the numbers of grilse and multi-sea-winter Atlantic salmon (*salmo salar*) caught in the vicinity of the River Dee (Aberdeenshire). 1513-1521
- Bernatchez, L., and J. J. Dodson. Influence of temperature and current speed on the swimming capacity of lake whitefish (*Coregonus clupeaformis*) and cisco (*C. artedii*). 1522-1529
- Morin, A. Variability of density estimates and the optimization of sampling programs for stream benthos. 1530-1534
- Sameoto, D., N. A. Cochrane, and A. W. Herman. Response of biological acoustic backscattering to ships' lights. 1535-1543
- Clark, K. L., and B. D. LaZerte. A laboratory study of the effects of aluminum and pH on amphibian eggs and tadpoles. 1544-1551
- Notes
- Laurs, R. M., R. Nishimoto, and J. A. Wetherall. Frequency of increment formation on sagittae of North Pacific albacore (*Thunnus alalunga*). 1552-1555
- Pocklington, R. Organic matter in the Gulf of St. Lawrence in winter. 1556-1561
- Book Reviews/Comptes rendus
- McLaren, I. A. Reproduction in whales, dolphins and porpoises. Proceedings of the Conference on Cetacean Reproduction: estimating parameters for stock assessment and management, La Jolla, California, 28 November - 7 December 1981. (W. F. Perrin, R. L. Brownell Jr., and D. P. DeMaster (eds.)). 1562-1563
- Fraser, S. Atlantic fisheries and coastal communities: fisheries decision-making histories. (C. Lamson, and A. J. Hanson (eds.)). 1563
- 
- No. 10, October/n<sup>o</sup> 10, octobre
- Downing, J. A., and H. Cyr. Quantitative estimation of epiphytic invertebrate populations. 1570-1579
- Mork, J., N. Ryman, G. Ståhl, F. Utter, and G. Sundnes. Genetic variation in Atlantic cod (*Gadus morhua*) throughout its range. 1580-1587
- Bierhuizen, J. F. H., and E. E. Prepas. Relationship between nutrients, dominant ions, and phytoplankton standing crop in prairie saline lakes. 1588-1594
- Peterman, R. M. Patterns of interannual variation in age at maturity of sockeye salmon (*Oncorhynchus nerka*) in Alaska and British Columbia. 1595-1607
- Henderson, B. A., and E. H. Brown Jr. Effects of abundance and water temperature on recruitment and growth of alewife (*Alosa pseudoharengus*) in South Bay, Lake Huron, 1954-82. 1608-1613
- Westrheim, S. J., and R. P. Foucher. Relative fishing power for Canadian trawlers landing Pacific cod (*Gadus macrocephalus*) and important shelf cohabitants for major offshore areas of western Canada, 1960-81. 1614-1626
- Malison, J. A., C. D. Best, T. B. Kayes, C. H. Amundson, and B. C. Wentworth. Hormonal growth promotion and evidence for a size-related difference in response to estradiol-17 $\beta$  in yellow perch (*Perca flavescens*). 1627-1633
- Linsey, G. A., and D. C. Lasenby. Comparison of summer and winter oxygen consumption rates in a temperate dimictic lake. 1634-1639
- Crecco, V. A., and T. F. Savoy. Effects of biotic and abiotic factors on growth and relative survival of young American shad, *Alosa sapidissima*, in the Connecticut River. 1640-1648
- Crecco, V. A., and T. F. Savoy. Density-dependent catchability and its potential causes and consequences on Connecticut River American shad, *Alosa sapidissima*. 1649-1657
- Døving, K. B., H. Westerberg, and P. B. Johnsen.

Role of olfaction in the behavioral and neuronal responses of Atlantic salmon, *Salmo salar*, to hydrographic stratification. 1658-1667

## Notes

Wilzbach, M. A. Relative roles of food abundance and cover in determining the habitat distribution of stream-dwelling cutthroat trout (*Salmo clarki*). 1668-1672

Misra, R. K. Quadratic discriminant analysis with covariance for stock delineation and population differentiation: a study of beaked redbishes (*Sebastes mentella* and *S. fasciatus*). 1672-1676

Allard, M., and G. Moreau. Short-term effect on the metabolism of lotic benthic communities following experimental acidification. 1676-1680

## Perspectives

Gilbertson, M. The Niagara labyrinth — The human ecology of producing organochlorine chemicals. 1681-1692

No. 11, November/n<sup>o</sup> 11, novembre

Craig, P. C. Identification of sockeye salmon (*Oncorhynchus nerka*) stocks in the Stikine River based on egg size measurements. 1696-1701

Abbott, J. C., and L. M. Dill. Patterns of aggressive attack in juvenile steelhead trout (*Salmo gairdneri*). 1702-1706

Effler, S. W., G. C. Schafran, and C. T. Driscoll. Partitioning light attenuation in an acidic lake. 1707-1711

Estep, M. L. F., and S. Vigg. Stable carbon and nitrogen isotope tracers of trophic dynamics in natural populations and fisheries of the Lahontan Lake system, Nevada. 1712-1719

Cooper, S. D., D. W. Smith, and J. R. Bence. Prey selection by freshwater predators with different foraging strategies. 1720-1732

Stanhope, M. J., and C. D. Levings. Growth and production of *Eogammarus confervicolus* (Amphipoda: Anisogammaridae) at a log storage site and in areas of undisturbed habitat within the Squamish estuary, British Columbia. 1733-1740

Havas, M. Aluminum bioaccumulation and toxicity

to *Daphnia magna* in soft water at low pH. 1741-1748

Price, E. E., and M. C. Swift. Inter- and intra-specific variability in the response of zooplankton to acid stress. 1749-1754

Beacham, T. D., and C. B. Murray. Effect of female size, egg size, and water temperature on developmental biology of chum salmon (*Oncorhynchus keta*) from the Nitinat River, British Columbia. 1755-1765

Lawson, T. A., and R. Hilborn. Equilibrium yields and yield isopleths from a general age-structured model of harvested populations. 1766-1771

Moon, T. W., P. J. Walsh, and T. P. Mommsen. Fish hepatocytes: a model metabolic system. 1772-1782

Wehr, J. D., and L. M. Brown. Selenium requirement of a bloom-forming planktonic alga from softwater and acidified lakes. 1783-1788

Bergmann, M. A., and H. E. Welch. Spring meltwater mixing in small arctic lakes. 1789-1798

Beamish, R. J., and G. A. McFarlane. Annulus development on the second dorsal spine of the spiny dogfish (*Squalus acanthias*) and its validity for age determination. 1799-1805

Schweigert, J. F., C. W. Haegele, and M. Stocker. Optimizing sampling design for herring spawn surveys in the Strait of Georgia, B.C. 1806-1814

Schwalme, K., W. C. Mackay, and D. Lindner. Suitability of vertical slot and Denil fishways for passing north-temperate, nonsalmonid fish. 1815-1822

Knutson, H., E. Moksnes, and N. B. Vogt. Distinguishing between one-day-old cod (*Gadus morhua*) and haddock (*Melanogrammus aeglefinus*) eggs by gas chromatography and SIMCA pattern recognition. 1823-1826

Gardner, W. S., T. F. Nalepa, W. A. Frez, E. A. Cichocki, and P. F. Landrum. Seasonal patterns in lipid content of Lake Michigan macroinvertebrates. 1827-1832

## Notes

Hilborn, R. Simplified calculation of optimum spawning stock size from Ricker's stock recruitment curve. 1833-1834

Turner, L. J., and W. C. Mackay. Use of visual census for estimating population size in northern pike (*Esox lucius*). 1835-1840

## Perspectives

- Frank, K. T., and W. C. Leggett. Reciprocal oscillations in densities of larval fish and potential predators: a reflection of present or past predation? 1841-1849

## Obituary/Nécrologie

- Campbell, N. J. Henry Benedict Hachey. 1901-1985. 1850-1851

## Book Reviews/Comptes rendus

- McAllister, D. E., and B. W. Coad. Fishes of the north-eastern Atlantic and the Mediterranean/Poissons de l'Atlantique du nord-est et de la Méditerranée. (P. J. P. Whitehead, M.-L. Bauchot, J.-C. Hureau, J. Nielsen, and E. Tortonese (eds.)). 1852

No. 12, December/n<sup>o</sup> 12, décembre

- Downing, J. A., and M. R. Anderson. Estimating the standing biomass of aquatic macrophytes. 1860-1869
- Rhodes, L., E. Casillas, B. McKnight, W. Gronlund, M. Myers, O. P. Olson, and B. McCain. Interactive effects of cadmium, polychlorinated biphenyls, and fuel oil on experimentally exposed English sole (*Parophrys vetulus*). 1870-1880
- Warwick, W. F. Morphological abnormalities in Chironomidae (Diptera) larvae as measures of toxicity stress in freshwater ecosystems: indexing antennal deformities in *Chironomus* Meigen. 1881-1914
- Paszkowski, C. A., and B. L. Olla. Foraging behavior of hatchery-produced coho salmon (*Oncorhynchus kisutch*) smolts on live prey. 1915-1921
- Irvine, J. R. Effects of successive flow perturbations on stream invertebrates. 1922-1927
- Jessop, B. M. Influence of mesh composition, velocity, and run time on the catch and length composition of juvenile alewives (*Alosa pseudoharengus*) and blueback herring (*A. aestivalis*) collected by pushnet. 1928-1939
- Smith, D. W. Biological control of excessive phytoplankton growth and the enhancement of aquacultural production. 1940-1945
- Nalewajko, C., and B. Paul. Effects of manipulations of aluminum concentrations and pH on phosphate uptake and photosynthesis of planktonic communities in two Precambrian Shield lakes. 1946-1953
- Waddy, S. L., and D. E. Aiken. Fertilization and egg retention in artificially inseminated female American lobsters, *Homarus americanus*. 1954-1956
- McGladdery, S. E., and M. D. B. Burt. Potential of parasites for use as biological indicators of migration, feeding, and spawning behavior of northwestern Atlantic herring (*Clupea harengus*). 1957-1968
- Arfi, R. Variabilité interannuelle d'un indice d'intensité des remontées d'eau dans le secteur du cap Blanc (Mauritanie). 1969-1978
- Pierson, D. C., and C. H. Taylor. Influence of snowcover development and ground freezing on cation loss from a wetland watershed during spring runoff. 1979-1985
- Bower, S. M., L. Margolis, and R. J. MacKay. Potential usefulness of chlorine for controlling Pacific salmon leeches, *Piscicola salmositica*, in hatcheries. 1986-1993
- Johnston, C. E., and J. C. Cheverie. Comparative analysis of ionoregulation in rainbow trout (*Salmo gairdneri*) of different sizes following rapid and slow salinity adaptation. 1994-2003
- Neville, C. M. Physiological response of juvenile rainbow trout, *Salmo gairdneri*, to acid and aluminum - prediction of field responses from laboratory data. 2004-2019
- Taylor, E. B., and J. D. McPhail. Variation in body morphology among British Columbia populations of coho salmon, *Oncorhynchus kisutch*. 2020-2028
- Taylor, E. B., and J. D. McPhail. Variation in burst and prolonged swimming performance among British Columbia populations of coho salmon, *Oncorhynchus kisutch*. 2029-2033

## Reviews/Synthèses

- Campbell, P. G. C., and P. M. Stokes. Acidification and toxicity of metals to aquatic biota. 2034-2049

## Notes

- Townsend, R. E. The right to fish as an external benefit of open access. 2050-2053
- Lessman, C. A., S. Kavumpurath, and H. R. Habibi. Removal of follicle wall components from ovarian oocytes of the brook trout, *Salvelinus fontinalis*. 2053-2058

- Kimura, D. K. Changes to Stock Reduction Analysis indicated by Schnute's general theory. 2059-2060

#### Perspectives

- Miller, R. J. Seaweeds, sea urchins, and lobsters: a reappraisal. 2061-2072

#### Book Reviews/Comptes rendus

- Ecobichon, D. J. QSAR in environmental toxicology. (K. L. E. Kaiser (ed.)). 2073
- Hynes, J., and A. Castledine. Proceedings of the National Aquaculture Conference. Strategies for aquaculture development in Canada. (G. I. Pritchard (ed.)). 2073-2074
- Hamblin, P. F. Storm surges - meteorological ocean tides. (T. S. Murty). 2074-2075
- Mitchell, E., and R. R. Reeves. Communication and behavior of whales. (R. Payne (ed.)). 2075-2077

#### Supplement No. 1/Supplément n° 1

#### Proceedings of the International Symposium on the Biological Characteristics of Herring and Their Implication for Management

- Taylor, F. H. C. Introduction to the International Symposium on the Biological Characteristics of Herring and Their Implication for Management. 2

#### Session 1: Biological perspectives of herring

- Whitehead, P. J. P. King herring: his place amongst the clupeoids. 3-20
- Blaxter, J. H. S. The herring: a successful species? 21-30
- Lasker, R. What limits clupeoid production? 31-38

#### Session 2: Spawning, development, and survival of early life stages of herring

- Haegeler, C. W., and J. F. Schweigert. Distribution and characteristics of herring spawning grounds and description of spawning behavior. 39-55
- Alderdice, D. F., and A. S. Hourston. Factors influencing development and survival of Pacific herring (*Clupea harengus pallasii*)

eggs and larvae to beginning of exogenous feeding. 56-68

- Smith, P. E. Year-class strength and survival of O-group clupeoids. 69-82

Aneer, G. Some speculations about the Baltic herring (*Clupea harengus membras*) in connection with the eutrophication of the Baltic Sea. 83-90

Henri, M., J. J. Dodson, and H. Powles. Spatial configurations of young herring (*Clupea harengus harengus*) larvae in the St. Lawrence estuary: importance of biological and physical factors. 91-104

#### Session 3: Age, growth, and reproductive characteristics of herring

- Kerr, S. R., and L. M. Dickie. Bioenergetics of O+ Atlantic herring (*Clupea harengus harengus*). 105-110
- Hay, D. E. Reproductive biology of Pacific herring (*Clupea harengus pallasii*). 111-126
- Ware, D. M. Life history characteristics, reproductive value, and resilience of Pacific herring (*Clupea harengus pallasii*). 127-137

Haist, V., and M. Stocker. Growth and maturation of Pacific herring (*Clupea harengus pallasii*) in the Strait of Georgia. 138-146

#### Session 4: Clupeoid production and recruitment models

- Reish, R. L., R. B. Deriso, D. Ruppert, and R. J. Carroll. An investigation of the population dynamics of Atlantic menhaden (*Brevoortia tyrannus*). 147-157
- Anthony, V. C., and M. J. Fogarty. Environmental effects on recruitment, growth, and vulnerability of Atlantic herring (*Clupea harengus harengus*) in the Gulf of Maine region. 158-173

Stocker, M., V. Haist, and D. Fournier. Environmental variation and recruitment of Pacific herring (*Clupea harengus pallasii*) in the Strait of Georgia. 174-180

Fried, S. M., and V. G. Wespestad. Productivity of Pacific herring (*Clupea harengus pallasii*) in the eastern Bering Sea under various patterns of exploitation. 181-191

Burd, A. C. Recent changes in the central and southern North Sea herring stocks. 192-206

#### Session 5: Biological, social, and economic aspects of herring fisheries management

Jakobsson, J. Monitoring and management of the

- Northeast Atlantic herring stocks. 207-221
- Morita, S. History of the herring fishery and review of artificial propagation techniques for herring in Japan. 222-229
- Trumble, R. J., and R. D. Humphreys. Management of Pacific herring (*Clupea harengus pallasii*) in the eastern Pacific Ocean. 230-244
- Doubleday, W. G. Managing herring fisheries under uncertainty. 245-257
- Wilimovsky, N. J. The need for formalization of decision algorithms and risk levels in fishery research and management. 258-262
- Winters, G. H., E. L. Dalley, and J. A. Moores. Fortuity disguised as fisheries management: the case history of Fortune Bay herring. 263-274
- Symposium Review
- Cushing, D. H. Reporter's summary. 275-278

CANADIAN SPECIAL PUBLICATION OF FISHERIES AND AQUATIC SCIENCES/  
PUBLICATION SPECIALE CANADIENNE DES SCIENCES HALIEUTIQUES ET AQUATIQUES

Abbreviation/Abréviation: SP

- 69F. Tremblay, M. J. et J. T. Anderson. 1985. Liste annotée des espèces de copépodes planctoniques marins présents sur la plate-forme et la pente supérieure continentales de l'Atlantique nord-ouest (du golfe du Maine à la baie d'Ungava). 12 p. (Canada \$3.00, autres pays \$3.60: S'adresser à: Approvisionnement et Services Canada, Centre d'édition du gouvernement du Canada, Ottawa (Ontario), Canada K1A 0S9.)
- 71F. Pepper, V. A. 1985. Incubateurs à substrat profond - Guide pour la mise en valeur du saumon de l'Atlantique. 27 p. (Canada \$4.00, autres pays \$4.80: S'adresser à: Approvisionnement et Services Canada, Centre d'édition du gouvernement du Canada, Ottawa (Ontario), Canada K1A 0S9.)
76. Taylor, V. R. 1985. The early Atlantic salmon fishery in Newfoundland and Labrador. 71 p. (Canada \$6.00, other countries \$7.20: Available from Supply and Services Canada, Canadian Government Publishing Centre, Ottawa, Ontario, Canada K1A 0S9.)
77. Bigg, M. A. 1985. Status of the Steller sea lion (*Eumetopias jubatus*) and California sea lion (*Zalophus californianus*) in British Columbia. 20 p. (Canada \$5.00, other countries \$6.00: Available from Supply and Services, Canada, Canadian Government Publishing Centre, Ottawa, Ontario, Canada K1A 0S9.)
78. Wilkinson, P. 1985. The determination of environmental levels of uranium and thorium series isotopes and  $^{137}\text{Cs}$  in aquatic and terrestrial samples. 51 p. (Canada \$4.00, other countries \$4.80: Available from Supply and Services Canada, Canadian Government Publishing Centre, Ottawa, Ontario, Canada K1A 0S9.)
- 78F. Wilkinson, P. 1985. Détermination des concentrations d'isotopes des familles de l'uranium et du thorium et de  $^{137}\text{Cs}$  dans des échantillons aquatiques et terrestres. 51 p. (Canada \$4.00, autres pays \$4.80: S'adresser à: Approvisionnement et Services Canada, Centre d'édition du gouvernement du Canada, Ottawa (Ontario), Canada K1A 0S9.)
79. Anonymous. 1985. Atlantic fishing licence directory 1985/Annuaire des permis de pêche de l'Atlantique 1985. 931 p. (Canada \$24.95, other countries/autres pays \$29.95: Available from Supply and Services Canada, Canadian Government Publishing Centre, Ottawa, Ontario, Canada K1A 0S9/S'adresser à: Approvisionnement et Services Canada, Centre d'édition du gouvernement du Canada, Ottawa (Ontario), Canada K1A 0S9.)
80. Dunfield, R. W. 1985. The Atlantic salmon in the history of North America. 181 p. (Canada \$11.95, other countries \$14.35: Available from Supply and Services Canada, Canadian Government Publishing Centre, Ottawa, Ontario, Canada K1A 0S9.)
82. Tuomi, A. L. W. (ed.). 1985. Transactions of the 1984 Canadian



Sport Fisheries Conference - Canada's sport fisheries: getting ready for the 1990's/Comptes rendus de la Conférence canadienne de la pêche sportive de 1984 - la pêche sportive au Canada: vers les années 1990. 338 p. (Canada \$15.00, other countries/autres pays \$18.00: Available from Supply and Services Canada, Canadian Government Publishing Centre, Ottawa, Ontario, Canada K1A 0S9/S'adresser à: Approvisionnement et Services Canada,

Centre d'édition du gouvernement du Canada, Ottawa(Ontario), Canada K1A 0S9.)

83. Borstad, G. A., H. R. Edel, J. F. Gower, and A. B. Hollinger. 1985. Analysis of test and flight data from the fluorescence line imager. 38 p. (Canada \$6.00, other countries \$7.20: Available from Supply and Services Canada, Canadian Government Publishing Centre, Ottawa, Ontario, Canada K1A 0S9.)

# CANADIAN BULLETIN OF FISHERIES AND AQUATIC SCIENCES/ BULLETIN CANADIEN DES SCIENCES HALIEUTIQUES ET AQUATIQUES

Abbreviation/Abréviation: B

211F. Argue, A. W., R. Hilborn, R. M. Peterman, M. J. Staley et C. J. Walters. 1985. Pêches du quinnat et du coho dans le détroit de Géorgie. 97 p. (Canada \$8.95, autres pays \$10.75.)

213. Ulanowicz, R. E., and T. Platt (eds.). 1985. Ecosystem theory for biological oceanography. 260 p. (Canada \$14.95, other countries \$17.95.)

(Bulletins are available by mail from the Canadian Government Publishing Centre, Supply and Services Canada, Ottawa, Ontario K1A 0S0.)

(Les Bulletins sont en vente par la poste au Centre d'édition du gouvernement du Canada, Approvisionnement et Services Canada, Ottawa(Ontario) K1A 0S9.)

# CANADIAN TECHNICAL REPORT OF FISHERIES AND AQUATIC SCIENCES/ RAPPORT TECHNIQUE CANADIEN DES SCIENCES HALIEUTIQUES ET AQUATIQUES

Abbreviation/Abréviation: TF

(NOTE: These reports contain scientific and technical information that is of sufficient importance to be preserved but that is not appropriate for primary scientific publication. No restriction is placed on subject matter and the series reflects the broad interests and policies of the Department of Fisheries and Oceans, namely, fisheries management, technology and development, and aquatic environments relevant to Canada.)

Technical reports may be cited as full publications; the correct citation appears above the abstract of each report. The reports are abstracted in *Aquatic Sciences and Fisheries Abstracts* and are indexed annually in the Department's index to scientific and technical publications.

Numbers 1-456 in this series were issued as Technical Reports of the Fisheries Research Board of Canada. Numbers 457-714 were issued as Department of the Environment, Fisheries and Marine Service, Research and Development Directorate Technical Reports. Numbers 715-924 were issued as Department of Fisheries and the Environment, Fisheries and Marine Service Technical Reports. The current series' name was changed with report number 925 and is now Canadian Technical Report of Fisheries and Aquatic Sciences.

Numbers 1201F, 1255, 1264, 1287, 1289, 1290, 1291, 1292, 1293, 1297, 1300, 1303, and 1304 were issued too late for listing and indexing in previous indexes. They are indexed herein. The numerals in parentheses at the end of each reference indicate the name of the establishment from which the information or the report originated. See pages 2086 and 2087 for addresses corresponding to these numerals. Copies of Technical reports can be obtained from Micromedia Limited, 165 Hotel de Ville, Hull(Québec) J8X 3X2.)

(REMARQUE: Ces rapports contiennent des données scientifiques et techniques suffisamment importantes pour être consignées mais qui ne se prêtent pas à la publication dans un journal scientifique. Comme il n'y a aucune restriction quant aux sujets abordés, la série reflète la vaste gamme des intérêts et des politiques du Ministère des Pêches et des Océans, notamment dans les domaines de la gestion des pêches, de la technologie, du développement et de l'environnement aquatique.

Les rapports techniques peuvent être considérés comme des publications à part entière; le titre exact paraît au-dessus du résumé de chaque rapport, lequel est publié dans *Aquatic Sciences and Fisheries Abstracts* et figure dans l'index annuel des publications scientifiques et techniques du Ministère.

Les numéros 1 à 456 de cette série ont été publiés à titre de Rapports techniques de l'Office des recherches sur les pêcheries. Les numéros 457 à 714 ont paru en tant que Rapports techniques de la Direction générale de la recherche et du développement, Service des pêches et des sciences de la mer, Ministère de l'Environnement. Enfin, les numéros 715 à 924 consistaient en des Rapports techniques du Service des pêches et de la mer, Ministère des Pêches et des Océans. Depuis le numéro 925, la série porte le nom de Rapport technique canadien des sciences halieutiques et aquatiques.

Les numéros 1201F, 1255, 1264, 1287, 1289, 1290, 1291, 1292, 1293, 1297, 1300, 1393 et 1304 on paru trop tard pour l'inscription dans les index précédents. Vous les trouverez répertoriés ci-joint. Les chiffres entre parenthèses après le titre de chaque rapport représentent l'établissement qui a fourni les données ou le rapport. Vous trouverez aux pages 2086 et 2087 les adresses correspondant aux chiffres. Vous pouvez obtenir des copies des rapports techniques en communiquant avec Micromedia Limited, 165 Hotel de Ville, Hull (Québec) J8X 3X2.)

- |   |  |
|---|--|
| 1201F. McClelland, G., R. K. Misra et D. J. Marcogliese. 1985. Variation de l'abondance des d'ansakinés larvaires, du ver de phoque ( <i>Phocanema decipiens</i> ) et des espèces apparentées chez la morue et les poissons plats du sud du golfe du Saint-Laurent (4T) et de la plate-forme du Cap-Breton (4Vn). 57 p. (8) | and G. J. D. Smith. 1985. Population dispersal, size, and interactions of harbour porpoises in the Bay of Fundy and Gulf of Maine. 28 p. (10)  |
| 1255. McKinnon, G. A., and F. N. Hnytko. 1985. Fish passage assessment of culverts constructed to simulate stream conditions on Liard River tributaries. 121 p. (4)   | 1292. Beacham, T. D. 1984. The distribution of landings of British Columbia salmon in relation to the size of the commercial fishing fleet. IV. Chinook salmon. 71 p. (1)  |
| 1264. Roff, J. C., L. P. Fanning, and A. B. Stasko. 1984. Larval crab (Decapoda: Brachyura) zoeas and megalopas of the Scotian Shelf. 22 p. (6)   | 1293. Harrison, P. J., J. D. Fulton, G. Miller, C. D. Levings, F. J. R. Taylor, T. R. Parsons, P. A. Thompson, and D. W. Mitchell. 1984. A bibliography of the biological oceanography of the Strait of Georgia and adjacent inlets, with emphasis on ecological aspects. 140 p. (1) |
| 1287. Birtwell, I. K., G. F. Hartman, B. Anderson, D. J. McLeay, and J. G. Malick. 1984. A brief investigation of Arctic grayling ( <i>Thymallus arcticus</i> ) and aquatic invertebrates in the Minto Creek drainage, Mayo, Yukon Territory; an area subjected to placer mining. 57 p. (3)                                 | 1297. Bilton, H. T. 1984. Variation in scales sampled from different body areas of sockeye salmon yearlings ( <i>Oncorhynchus nerka</i> ). 7 p. (1)  |
| 1289. Mason, J. C., A. C. Phillips, and O. D. Kennedy. 1984. Estimating the spawning stocks of Pacific hake ( <i>Merluccius productus</i> ) and walleye pollock ( <i>Theragra chalcogramma</i> ) in the Strait of Georgia, B.C. from their released egg production. 51 p. (1)   | 1300. Mahon, R., R. W. Smith, B. B. Bernstein, and J. S. Scott. 1984. Spatial and temporal patterns of groundfish distribution on the Scotian Shelf and in the Bay of Fundy, 1970-1981. 164 p. (7)   |
| 1290. Mason, J. C. 1984. On the fecundity of the sablefish ( <i>Anoplopoma fimbria</i> ) in Canadian waters. 17 p. (1)  | 1303. Kabata, Z., and D. J. Whitaker. 1984. Results of three investigations of the parasite fauna of several marine fishes of British Columbia. 19 p. (1)  |
| 1291. Gaskin, D. E., A. J. Read, P. F. Watts,   | 1304. Beacham, T. D. 1984. The distribution of landings of British Columbia salmon in relation to the size of the commercial fishing fleet, 1967-1981. V. Coho salmon. 71 p. (1)   |
|   | 1306. Bilton, H. T., R. B. Morley, A. S.   |

- Coburn, and J. Van Tyne. 1984. The influence of time and size at release of juvenile coho salmon (*Oncorhynchus kisutch*) on returns at maturity; results of releases from Quinsam River Hatchery, B.C., in 1980. 98 p. (1)
1308. Zitko, V. 1984. Simplex optimization. 18 p. (6)
1309. Hawkins, C. M., and T. W. Rowell. 1984. Some useful conversions in relating historical and future catch statistics of soft-shell clams (*Mya arenaria*) in the Scotia-Fundy Region. 16 p. (8)
1310. Stevenson, S. C., A. D. Murphy, and R. B. Stead. 1984. Report on the cod by-catch in the 1981-83 Newfoundland capelin trap fisheries. 15 p. (9)
1311. Beacham, T. D., and B. V. Bernard. 1984. The distribution of landings of British Columbia salmon in relation to the size of the commercial fishing fleet. VI. Summary. 71 p. (1)
1312. Leaman, J. E. 1984. Catch and effort statistics of the Canadian groundfish fishery on the Pacific coast in 1983. 87 p. (1)
- 1313F. Robitaille, J. A., Y. Côté, G. Hayeur et G. Shooner. 1984. Particularités de la reproduction du saumon atlantique (*Salmo salar*) dans une partie du réseau Koksoak, en Ungava. 33 p. (13)
- 1314F. Robitaille, J. A. Y. Côté, G. Shooner et G. Hayeur. 1984. Croissance estuarienne du saumon atlantique (*Salmo salar*) dans le fleuve Koksoak, en Ungava. 23 p. (13)
- 1315F. Carter, P. et P. Béland. 1984. L'aquaculture marine au Québec. 85 p. (15)
1317. Withler, F. C., and W. Kwain. 1984. Survey of pink salmon in eastern Lake Superior, 1981. 35 p. (1)
1318. Stanley, R. D. 1984. Incidental catch of halibut (*Hippoglossus stenolepis*) by domestic trawlers in Queen Charlotte Sound and Hecate Strait, in 1981 and 1982. 45 p. (1)
1319. Leslie, J. K., and J. F. Gorrie. 1984. Early development of the muskellunge, *Esox masquinongy*, of Stony Lake, Ontario. 20 p. (11)
1320. Ryan, P. M., and D. Wakeham. 1984. An overview of the physical and chemical limnology of the Experimental Ponds Area, central Newfoundland, 1977-82. 54 p. (9)
1321. Chalanchuk, S. M. 1984. Aging a population of the white sucker, *Catostomus commersoni*, by the fin-ray method. 16 p. (4)
1322. Roff, J. C., K. G. Davidson, G. Pohle, and M. J. Dadswell. 1984. A guide to the marine flora and fauna of the Bay of Fundy and Scotian Shelf: larval Decapoda: Brachyura. 57 p. (6)
1323. Reddin, D. G., and W. H. Lear. 1984. Seasonal trends in the biological characteristics of Atlantic salmon (*Salmo salar* L.) catches in the 1974-76 commercial fishery at Portugal Cove, Newfoundland. 88 p. (9)
1324. Stockner, J. G., and K. D. Hyatt. 1984. Lake fertilization: state of the art after 7 years of application. 33 p. (3)
1325. Ryan, P. M. 1984. Age, growth, and food of threespine sticklebacks (*Gasterosteus aculeatus*) in three lakes of central Newfoundland, Canada. 16 p. (9)
1326. Symons, P. E. K., and M. Waldichuk (eds.). 1984. Proceedings of the workshop on stream indexing for salmon escapement estimation, West Vancouver, B.C., 2 - 3 February 1984. 258 p. (3)
1328. Fee, E. J. 1984. Freshwater Institute primary production model user's guide. 36 p. (4)
1329. Kreiberg, H., J. R. Brett, and A. Solmie. 1984. Roe herring impoundment research - report on the 1983/1984 studies. 31 p. (1)
1330. Bams, R. A. 1984. Japanese-style and gravel-box incubation of chum salmon (*Oncorhynchus keta*) compared at the fry stage. 23 p. (1)
1331. Bourne, N. 1984. Clam predation by scoter ducks in the Strait of Georgia, British Columbia, Canada. 17 p. (1)
1332. Burton, W., J. F. Flannagan, and D. G. Cobb. 1985. Description and evaluation of a new, pneumatically operated Ekman-type grab. 8 p. (4)
1333. Taylor, F. H. C. 1984. Distribution and abundance of herring and other pelagic fish off the west coast of Vancouver

- Island in September, 1981. 43 p. (1)
1334. Walczak, B. Z. 1985. Immune capability of fish: a literature review. 33 p. (11)
1335. Palermo, R. V. 1984. Determination of sample size requirements to analyze the age structure of the British Columbia chinook salmon catch. 11 p. (12)
1336. Bond, W. A., and R. N. Erickson. 1985. Life history studies of anadromous coregonid fishes in two freshwater lake systems on the Tuktoyaktuk Peninsula, Northwest Territories. 61 p. (4)
1337. Fagerlund, U. H. M., J. R. McBride, B. S. Dosanjh, H. T. Bilton, R. B. Morley, and J. Van Tine. 1984. Density effects on performance to release of three size groups within populations of pond-reared juvenile coho salmon. Smolts released from Quinsam Hatchery in 1983. 19 p. (3)
1339. Plant, S. (compiler). 1985. Bay of Fundy environmental and tidal power bibliography (second edition). 430 p. (7)
1340. Melvin, G. D., M. J. Dadswell, and J. D. Martin. 1985. Impact on lowhead hydroelectric tidal power development on fisheries. I. A pre-operation study of the spawning population of American shad, *Alosa sapidissima* (Pisces: Clupeidae), in the Annapolis River, Nova Scotia, Canada. 33 p. (6)
1341. Shearer, J. A., E. R. DeBruyn, D. R. DeClercq, D. W. Schindler, and E. J. Fee. 1985. Manual of phytoplankton primary production methodology. 58 p. (4)
- 1343F. Leclerc, J., Y. C. Chagnon, C. Langlois et P. Dulude. 1984. Influence de l'acidification sur la survie et le développement des oeufs et des alevins vésiculés d'omble de fontaine *Salvelinus fontinalis* (Mitchill) dans la région de Charlevoix (Québec.) 56 p. (13)
1344. Charmantier, G., M. Charmantier-daures, and W. W. Young-Lai. 1985. Lethal and sublethal effects of potash brine on different stages of the lobster, *Homarus americanus*. 13 p. (6)
1345. Marshall, K. E., and M. Layton. 1985. A bibliography of the Arctic charr, *Salvelinus alpinus* (L.) complex: 1981 through 1984. 16 p. (4)
1347. Mahon, R. (ed.). 1985. Towards the inclusion of fishery interactions in management advice. Proceedings of a workshop at the Bedford Institute of Oceanography (October 30 - November 1, 1984). 221 p. (7)
1348. Yurkowski, M., D. C. Gillespie, D. A. Metner, and W. L. Lockhart. 1985. Nephrocalcinosis and blood chemistry in mature rainbow trout (*Salmo gairdneri*). 7 p. (4)
1349. Rosberg, G. E., and G. L. Greer. 1985. Migration rate and behaviour of adult sockeye and chum salmon through trained and untrained sections of the lower Fraser River. 25 p. (3)
1350. Borstad, G. A. 1985. Water colour and temperature in the southern Beaufort Sea: remote sensing in support of ecological studies of the bowhead whales. 68 p. (4)
1352. Milligan, P. A., W. O. Rublee, D. D. Cornett, and R. A. C. Johnston. 1985. The distribution and abundance of chinook salmon (*Oncorhynchus tshawytscha*) in the upper Yukon River basin as determined by a radio-tagging and spaghetti tagging program: 1982-1983. 161 p. (12)
1353. Bilton, H. T. 1985. The body-scale relationship for adult sockeye (*Oncorhynchus nerka*), pink (*O. gorbuscha*), chum salmon (*O. keta*) and chinook salmon (*O. tshawytscha*). 19 p. (1)
1355. Kulka, D. W., and J. R. Firth. 1985. Observer Program Training Manual - Newfoundland region. 171 p. (9)
1356. Beacham, T. D., R. E. Withler, A. P. Gould, and M. K. Farwell. 1985. Biochemical genetic stock compositions of chum salmon fisheries in southern British Columbia, 1981-1983. 23 p. (1)
1357. McLean, W. E., and P. G. Lim. 1985. Some effects of water flow rate and alevin density in vertical incubation trays on early development of chinook salmon (*Oncorhynchus tshawytscha*). 46 p. (12)
1358. Zitko, V., L. E. Burridge, M. Woodside, and V. Jerome. 1985. Mortalities of juvenile Atlantic salmon caused by the fungicide OBPA. 26 p. (6)

1359. Kendall, A. W. Jr., and J. B. Marliave (eds.). 1985. Descriptions of early life history stages of selected fishes: from the 3rd International Symposium on the early life history of fishes and 8th Annual Larval Fish Conference, May 1984, University of British Columbia, Vancouver, Canada. 82 p. (1)
1360. Bilton, H. T. 1985. Variation in scales sampled from different body areas of adult pink salmon. 15 p. (1)
1361. Yurkowski, M. 1985. A bibliography on the biochemistry, nutrition, and related areas of aquatic mammals and Arctic peoples to 1983. 236 p. (4)
1362. Chadwick, E. M. P., D. Brazeau-Carrier, and C. E. Léger. 1985. Historical catches of Atlantic salmon (*Salmo salar*) at four sport fishing lodges on Restigouche River, N.B. 27 p. (17)
1363. Lee, F. N. 1985. Design and operation of chilled sea water systems. 31 p. (2)
1364. Bower, S. M., and L. Margolis. 1985. Microfiltration and ultraviolet irradiation to eliminate *Ceratomyxa shasta* (Myxozoa: Myxosporea), a salmonid pathogen, from Fraser River water, British Columbia. 11 p. (1)
1365. Haist, V., M. Stocker, and J. F. Schweigert. 1985. Stock assessments for British Columbia herring in 1984 and forecasts of the potential catch in 1985. 53 p. (1)
1366. Lightly, D. T., M. J. Wood, and S. R. Heizer. 1985. The status of chum salmon stocks of the west coast of Vancouver Island, 1951-1982, Statistical Areas 22-27. 150 p. (1)
1367. Manzer, J. I., R. B. Morley, and D. J. Girodat. 1985. Terminal travel rates for Alberni Inlet sockeye salmon (*Oncorhynchus nerka*). 19 p. (1)
1369. Bell, G. R., and J. W. Bagshaw. 1985. Observations on the fate of experimentally induced wounds on adult chinook salmon in sea water. 49 p. (1)
1370. Franzin, W. G., and S. M. Harbicht. 1985. An evaluation of the relative success of naturalized brown charr, *Salvelinus fontinalis* (Mitchill), populations in South Duck River and Cowan Creek, Duck Mountain Region, Manitoba. 21 p. (4)
1371. Lang, C. C. 1985. CTD data acquisition program for a Guideline Mark IV Probe using a HP9824 microcomputer system. 52 p. (9)
1372. Shields, T. L., G. S. Jamieson, and P. E. Sprout. 1985. Spawn-on-kelp fisheries in the Queen Charlotte Islands and northern British Columbia coast - 1982 and 1983. 53 p. (1)
1374. Mohr, L. C. 1985. Depth distribution of the slimy sculpin (*Cottus cognatus*) in a small lake in northwestern Ontario. 13 p. (4)
1376. Shepard, M. P., C. D. Shepard, and A. W. Argue. 1985. Long term trends in the contributions of salmon from different geographical areas to the commercial fisheries of the north Pacific. 52 p. (12)
1377. Leslie, J. K., and J. E. Moore. 1985. Ecology of young-of-the-year fish in Muscote Bay (Bay of Quinte), Ontario. 63 p. (11)
1378. Kieser, R. 1985. A versatile echo integration/datalogging system for fisheries research and management. 48 p. (1)
1379. Solar, I. I., and E. M. Donaldson. 1985. Studies on genetic and hormonal sex control in domesticated rainbow trout. I. The effect of heat shock treatment for induction of triploidy in cultured rainbow trout (*Salmo gairdneri* Richardson). 15 p. (3)
1380. Solar, I. I., and E. M. Donaldson. 1985. Studies on genetic and hormonal sex control in a domesticated rainbow trout. II. Use of methyltestosterone for masculinization and sterilization in cultured rainbow trout (*Salmo gairdneri* Richardson). 9 p. (3)
1381. MacIsaac, E. A., and J. G. Stockner. 1985. Current trophic state and potential impacts of coal mine development on productivity of Middle Quinsam and Long lakes. 63 p. (3)
1382. Sinclair, M., R. K. Mohn, G. Robert, and D. L. Roddick. 1985. Considerations for the effective management of Atlantic scallops. 113 p. (8)
1383. Botta, J. R., E. A. Byrne, and B. E. Squires. 1985. Utilization of Atlantic cod (*Gadus morhua*) judged to have "blackberry" odor. 11 p. (9)



1384. Mittertreiner, A. C., and J. Schnute. 1985. SIMPLEX: a manual and software package for easy nonlinear parameter estimation and interpretation in fishery research. 90 p. (1)
1385. Markert, J. R., D. A. Higgs, D. MacQuarrie, J. R. McBride, B. S. Dosanjh, J. Van Tine, and R. Reinhardt. 1985. Evaluation of the potential for using dry rather than semi-moist food for culturing coho salmon in British Columbia hatchery facilities. 1. Quinsam Hatchery 1976 brood. 30 p. (3)
1386. Alderdice, D. F., and J. O. T. Jensen. 1985. Assessment of the influence of gas supersaturation on salmonids in the Nechako River in relation to Kemano Completion. 48 p. (1)
1387. Tremblay, M. J., and M. Sinclair. 1985. Gulf of St. Lawrence cod: age-specific geographic distributions and environmental occurrences from 1971 to 1981. 43 p. (8)
1388. Sullivan, M. A., S. C. Samis, J. A. Servizi, and R. W. Gordon. 1985. Survey of selected British Columbia and Yukon salmon streams for sensitivity to acidification from precipitation. 105 p. (12)
1389. Servizi, J. A., R. W. Gordon, S. C. Samis, L. G. Pella, M. A. Sullivan, and M. D. Nassichuk. 1985. Survey of selected streams for sensitivity to acidification from the proposed Hat Creek coal development. 76 p. (12)
1390. Wright, P. B., and W. E. McLean. 1985. The effects of aeration on the rearing of summer chinook fry (*Oncorhynchus tshawytscha*) at the Puntledge Hatchery. 59 p. (12)
1391. McNicol, R. E., and E. Scherer. 1985. A system for recording and analyzing macroinvertebrate behaviour in laboratory stream channels. 15 p. (4)
1392. McClelland, G., R. K. Misra, and D. J. Martell. 1985. Variations in abundance of larval anisakines, sealworm (*Pseudoterranova decipiens*) and related species, in eastern Canadian cod and flatfish. 57 p. (8)
1393. Ke P. J., B. A. Linke, D. W. Lemon, and L. W. Regier. 1985. Technical evaluation of gamma-irradiation pretreatment on quality preservation for fresh fish. 16 p. (8)
1394. Ashton, H. J., V. Haist, and D. M. Ware. 1985. Observations on abundance and diet of Pacific mackerel (*Scomber japonicus*) caught off the west coast of Vancouver Island, September 1984. 11 p. (1)
1395. Leaman, J. E., and J. M. Hamer. 1985. User's guide to the groundfish catch statistics data system of the Fisheries Research Branch, Pacific Region. 31 p. (1)
1396. Chalanchuk, S. 1985. Recruitment, growth, and condition of a population of the white sucker, *Catostomus commersoni*, in Lake 223, an experimentally acidified lake. 18 p. (4)
1403. Elner, R. W., P. G. Beninger, L. E. Linkletter, and S. Lanteigne. 1985. Guide to indicator fragments of principal prey taxa in the stomachs of two common Atlantic crab species: *Cancer borealis* Stimpson, 1859 and *Cancer irroratus* Say, 1817. 20 p. (6)

CANADIAN MANUSCRIPT REPORT OF FISHERIES AND AQUATIC SCIENCES/  
RAPPORT MANUSCRIT CANADIEN DES SCIENCES HALIEUTIQUES ET AQUATIQUES

Abbreviation/Abréviation: MF

(NOTE: These reports contain scientific and technical information that is of sufficient importance to be preserved but that is not appropriate for primary scientific publication. They differ from Technical reports in terms of subject scope and potential audience: Manuscript reports deal primarily with national or regional problems and distribution is generally restricted to institutions or individuals located in particular regions of Canada. No restriction is placed on subject matter and the series reflects the broad interests and policies of the Department of Fisheries and Oceans, namely, fisheries management, technology and development, and aquatic environments relevant to Canada.

Manuscript reports may be cited as full publications; the correct citation appears above the abstract of each report. The reports are abstracted in *Aquatic Sciences and Fisheries Abstracts* and are indexed annually in the Department's index to scientific and technical publications.

Numbers 1-900 in this series were issued as Manuscript Reports (Biological Series) of the Biological Board of Canada, and subsequent to 1937 when the name of the Board was changed by Act of Parliament, as Manuscript Reports (Biological Series) of the Fisheries Research Board of Canada. Numbers 901-1425 were issued as Manuscript Reports of the Fisheries Research Board of Canada. Numbers 1426-1550 were issued as Department of Fisheries and the Environment, Fisheries and Marine Service Manuscript Reports. The current series' name was changed with report number 1551 and is now Canadian Manuscript Report of Fisheries and Aquatic Sciences.

Numbers 1773, 1774, 1775, 1776, 1779, and 1780 were issued too late for listing and indexing in previous indexes. They are indexed herein. The numerals in parentheses at the end of each reference indicate the name of the establishment from which the information or the Report originated. See pages 2086 and 2087 for addresses corresponding to these numerals. Copies of Manuscript reports can be obtained from Micromedia Limited, 165 Hotel de Ville, Hull (Québec) J8X 3X2.)

(REMARQUE: Ces rapports contiennent des données scientifiques et techniques suffisamment importantes pour être consignées mais qui ne se prêtent pas à la publication dans un journal scientifique. Ils se distinguent des Rapports techniques par la portée du sujet et le lecteur visé: en effet, ils s'attachent principalement à des problèmes d'ordre national ou régional et la distribution en est généralement limitée aux organismes et aux personnes de régions particulières du Canada. Comme il n'y a aucune restriction quant aux sujets abordés, la série reflète la vaste gamme des intérêts et des politiques du Ministère des Pêches et des Océans, notamment dans les domaines de la gestion des pêches, de la technologie, du développement et de l'environnement aquatique.

Les rapports manuscrits peuvent être considérés comme des publications à part entière; le titre exact paraît au-dessus du résumé de chaque rapport, lequel est publié dans *Aquatic sciences and Fisheries Abstracts* et figure dans l'index annuel des publications scientifiques et techniques du Ministère.

Les numéros de 1 à 900 de cette série ont été publiés à titre de manuscrits (Série biologique) de l'Office de biologie du Canada, et après le changement de la désignation de cet organisme par décret du Parlement, en 1937, ont été classés en tant que manuscrits (Série biologique) de l'Office des recherches sur les pêcheries du Canada. Les numéros allant de 901 à 1425 ont été publiés à titre de manuscrits de l'Office des recherches sur les pêcheries du Canada. Les numéros 1426 à 1550 ont été publiés à titre de Rapport manuscrits du Service des pêches et de la mer, Ministère des Pêches et de l'Environnement. Le nom de la série a été changé à partir du rapport numéro 1551 et est maintenant Rapport manuscrit canadien des sciences halieutiques et aquatiques.

Les numéros 1773, 1774, 1775, 1776, 1779 et 1780 ont paru trop tard pour l'inscription dans les index précédents. Vous les trouverez répertoriés ci-joint. Les chiffres entre parenthèses après le titre de chaque rapport représentent l'établissement qui a fourni les données ou le rapport. Vous trouverez aux pages 2086 et 2087 les adresses correspondant aux chiffres. Vous pouvez obtenir des copies des rapports manuscrits en communiquant avec Micromedia Limited, 165 Hotel de Ville, Hull (Québec) J8X 3X2.)

- |   |   |
|---|---|
| <p>1431. Caddy, J. F., T. Amaratunga, M. J. (Rev.) Dadswell, T. Edelstein, L. E. Linkletter, B. R. McMullin, A. B. Stasko, and H. W. van de Poll. 1977 (Revised 1984). 1975 Northumberland Strait Project, Part I: benthic fauna, flora, demersal fish, and sedimentary data. 54 p. (6)</p> | <p>macrocephalus) from important area-time cells off southwest Vancouver Island, and in Queen Charlotte Sound and Hecate Strait, 1956-82. 59 p. (1)</p>   |
| <p>1773. Dodimead, A. J. 1984. A review of some aspects of the physical oceanography of the continental shelf and slope waters off the west coast of Vancouver Island, British Columbia. 309 p. (1)</p>   | <p>1776. Martin, J. D. 1984. Atlantic salmon and alewife passage through a pool and weir fishway on the Magaguadavic River, New Brunswick, during 1983. 11 p. (6)</p>   |
| <p>1774. Jamieson, G. S. (ed.). 1984. Shellfish management advice, Pacific region. 71 p. (1)</p>  | <p>1779. Sloan, N. A. 1984. Observations on Portland Inlet system golden king crabs (<i>Lithodes aequispina</i>) and their infestation by a rhizocephalan barnacle parasite (<i>Briarosaccus callosus</i>). 61 p. (1)</p> |
| <p>1775. Foucher, R. P., and S. J. Westrheim. 1984. Numbers landed-at-age and associated standardized landing statistics for Pacific cod (<i>Gadus</i></p>  | <p>1780. Starr, P. J., A. T. Charles, and M. A. Henderson. 1984. Reconstruction of British Columbia sockeye salmon (<i>Oncorhynchus nerka</i>) stocks: 1970-1982. 123 p. (12)</p>   |

1783. Bilton, H. T. 1984. The incidence of regenerated scales among Fraser River and Skeena River sockeye salmon (*Oncorhynchus nerka*). 7 p. (1)
1784. Beacham, T. D. 1984. Distribution of landings of Pacific salmon by the commercial fleet in British Columbia, 1951-1982. 38 p. (1)
1785. Henderson, M. A., and A. T. Charles. 1984. Reconstruction of British Columbia pink salmon stocks (*Oncorhynchus gorbuscha*): 1970-1982. Part I: Queen Charlotte Islands, north coast and central coast. 99 p. (12)
1786. James, M. D. 1984. Historic and present native participation in Pacific coast commercial fisheries. 45 p. (12)
1787. James, M. D. 1984. The Visitors Sportfishing Survey - 1982. 30 p. (12)
1788. Scherer, E., R. E. McNicol, and E. J. Murkin. 1984. Observations on habitat selection and partitioning by brook charr, *Salvelinus fontinalis* (Mitchill), in the South Duck River, a Manitoba woodland stream. 8 p. (4)
1789. Brownlee, M. J., E. R. Mattice, and C. D. Levings. 1984. The Campbell River Estuary: a report on the design, construction and preliminary follow-up study findings of intertidal marsh islands created for purposes of estuarine rehabilitation. 54 p. (12)
1790. Coady, L. W., and J. M. Maidment. 1985. Publications of the Fisheries Research Branch, Northwest Atlantic Fisheries Centre, St. John's, Newfoundland - 1931 to 1984. 159 p. (9)
1791. Cass, A. J., G. A. McFarlane, K. Rutherford, and I. Barber. 1984. Lingcod tagging study in the Strait of Georgia, November 1982-March 1983. 49 p. (1)
- 1792F. Langlois, C., A. Lemay, J. Ouzilleau et Y. Vigneault. 1985. Qualité physico-chimique de 251 lacs du bouclier canadien (Québec). 63 p. (13)
- 1793F. Provost, J., L. Verret et P. Dumont. 1984. L'alose savoureuse au Québec: synthèse des connaissances biologiques et perspectives d'aménagement d'habitats. 114 p. (13)
1794. McElderry, H. I., and L. J. Richards. 1984. Recreational SCUBA diving in the Strait of Georgia: an analysis of the distribution of diving effort and the importance of collecting marine animals. 61 p. (1)
1795. Schweigert, J. F., and C. W. Haegele. 1984. Herring stock estimates from diving surveys of spawn for the north coast of British Columbia in 1982. 43 p. (1)
1796. Hyatt, K. D., D. Rutherford, T. Gjernes, P. Rankin, and T. Cone. 1984. Lake Enrichment Program: juvenile sockeye unit survey guidelines. 84 p. (1)
1798. Haegele, C. W., and J. F. Schweigert. 1984. Herring stock estimate from a diving survey of spawn in Barkley Sound in 1982, with comparisons to other estimates. 33 p. (1)
1799. Birtwell, I. K., M. Wood, and D. F. Gordon. 1984. Fish diets and benthic invertebrates in the estuary of the Somass River, Port Alberni, British Columbia. 49 p. (3)
1800. Garnett, C. R. (ed.). 1985. Research in fisheries contaminants and toxicology conducted by the Fisheries and Environmental Sciences Division, Fisheries Research Branch, Scotia-Fundy Region, in 1984. 37 p. (6)
1801. Bijsterveld, L., M. James, and B. Moore. 1985. Recreational mail surveys, 1983 - Tidal Sportfishing Diary Program and Visitors Sportfishing Survey. 56 p. (12)
1802. McElderry, H., M. Matheusik, and L. J. Richards. 1985. Bottomfish and the British Columbia recreational fishery: an analysis of angler use habits and resource expectations. 116 p. (1)
1803. Horler, A., M. E. Jarvis, and R. A. C. Johnston. 1985. Creel census study on Fox, Marsh and Tagish lakes in the Yukon Territory, 1983. 46 p. (12)
- 1804F. LeJeune, R., B. P. Harvey et Y. Vigneault. 1984. Prospection sommaire de quelques habitats d'omble chevalier *Salvelinus alpinus* (Linné) du Québec méridional. 47 p. (13)
1805. Martin, J. D. 1985. Effects of Mount Pleasant tungsten mine effluent on biota of Hatch Brook. 7 p. (6)
1807. Angus, R. B., C. M. Hawkins, P. Woo, and B. Mullen. 1985. Soft-shell clam

- survey of the Annapolis Basin, Nova Scotia - 1983. 133 p. (8)
1808. Simpson, K., J. Lettic, and G. Miller. 1985. The archive of salmon data at the Pacific Biological Station. 383 p. (1)
1809. Holmes, P. E., M. L. Tarves, R. Tomio, and W. Jansen. 1985. Fish and fish habitat impact study of seven British Columbia coastal marinas, 1984. 121 p. (1)
1810. Russell, L. R., and J. A. Morrison. 1985. Sechart Inlet fish habitat inventory. 33 p. (1)
1811. Davenport, D. 1985. Biological observations of the foreign hake fishery for 1983. 15 p. (1)
1812. Angus, R. B., P. Woo, C. M. Hawkins, and B. Mullen. 1985. Soft-shell clam surveys in Charlotte County, New Brunswick - 1983. 69 p. (8)
1813. Tyler, A. V., and G. A. McFarlane (eds.). 1985. Groundfish stock assessments for the west coast of Canada in 1984 and recommended yield options for 1985. 353 p. (1)
1814. Charles, A. T., and M. A. Henderson. 1985. Chum salmon (*Oncorhynchus keta*) stock reconstructions for 1970-1982. Part I: Queen Charlotte Islands, north coast and central coast, British Columbia. 91 p. (12)
1815. Schubert, N. D., and A. Y. Fedorenko. 1985. Trapping and coded wire tagging of wild coho salmon juveniles in the upper Pitt River system, 1979 and 1980. 78 p. (12)
1817. Fedorenko, A. Y., and B. G. Shepherd. 1985. Mathers Creek feasibility studies: groundwater exploration 1978 to 1980, and pilot hatchery operation 1980 to 1984. 101 p. (12)
1818. Boutillier, J. A., W. Carolsfeld, P. A. Breen, S. Farlinger, and K. Bates. 1985. Abalone resurvey in the south-east Queen Charlotte Islands, July 1984. 87 p. (1)
1819. Shepard, M. P., C. D. Shepard, and A. W. Argue. 1985. Historic statistics of salmon production around the Pacific Rim. 297 p. (12)
1820. Roberge, M. M., G. Low, and C. J. Read. 1985. Investigation of a fall spawning run of lake whitefish into the Little Buffalo River, Northwest Territories. 31 p. (4)
- 1823F. Lévesque, F. et P. Magnan. 1985. Bibliographie annotée sur le saumon atlantique (*Salmo salar*) au stade post-fraie. 42 p. (13)
1825. Shaw, W., G. A. McFarlane, J. R. Scarsbrook, M. S. Smith, and W. T. Andrews. 1985. Distribution and biology of Pacific hake and walleye pollock off the west coast Vancouver Island and the State of Washington. (August 15-September 5, 1983). 128 p. (1)
1826. Bates, K. T. 1985. Review of the 1983 commercial abalone fishery in British Columbia. 25 p. (18)
- 1827F. Lévesque, F., R. Le Jeune et G. Shooner. 1985. Synthèse des connaissances sur le saumon atlantique (*Salmo salar*) au stade post-fraie. 34 p. (13)
1828. Lane, D. E. 1985. A bibliography on the white sturgeon, *Acipenser transmontanus* Richardson, 1836. 33 p. (1)
1829. Raymond, B. A., M. M. Wayne, and J. A. Morrison. 1985. Vegetation, invertebrate distribution and fish utilization of the Campbell River estuary, British Columbia. 46 p. (12)
1830. Munro, K. A., S. C. Samis, and M. D. Nassichuk. 1985. The effects of hatchery effluents on water chemistry, periphyton and benthic invertebrates of selected British Columbia streams. 203 p. (12)
1832. Blackmun, G. J., B. V. Lukyn, W. E. McLean, and D. Ewart. 1985. Quinsam watershed study: 1983. 65 p. (12)
1833. Richards, L. J., A. J. Cass, J. R. Selsby, R. van den Broek, and S. D. Loynachan. 1985. A summary of research catch and effort data for nearshore reef-fishes collected during 1984 in MSA 15 and 16 of the Strait of Georgia. 69 p. (1)
1835. Shaw, W., G. A. McFarlane, D. Davenport, and W. T. Andrews. 1985. Distribution and abundance of larval sablefish (*Anoplopoma fimbria*) in the surface waters off the west coast of Vancouver Island, April 16 to May 10, 1984. 41 p. (1)
1837. Haegele, C. W., and J. F. Schweigert. 1985. Herring stock estimates from diving surveys of spawn for the west

- coast of Vancouver Island in 1984.  
67 p. (1)
1838. Orman, L. 1985. Upper Dean Channel salmon test fishery, 1984. 34 p. (18)
1840. Stanley, R. D. 1985. A study of bottom-trawl discards in Queen Charlotte Sound and Hecate Strait, 1981 and 1982. 67 p. (1)
1842. Angus, R. B., and P. Woo. 1985. Soft-shell clam (*Mya arenaria*) resource inventory - Buckmans Creek, Charlotte County, New Brunswick - 1984. 17 p. (8)

CANADIAN DATA REPORT OF FISHERIES AND AQUATIC SCIENCES/  
RAPPORT STATISTIQUE CANADIEN DES SCIENCES HALIEUTIQUES ET AQUATIQUES

Abbreviation/Abréviation: DF

(NOTE: These reports provide a medium for filing and archiving data compilations where little or no analysis is included. Such compilations commonly will have been prepared in support of other journal publications or reports. The subject matter or Data reports reflects the broad interests and policies of the Department of Fisheries and Oceans, namely, fisheries management, technology and development, and aquatic environments relevant to Canada.

Data reports are not intended for general distribution and the contents must not be referred to in other publications without prior written clearance from the issuing establishment. The correct citation appears above the abstract of each report. The reports are abstracted in *Aquatic Sciences and Fisheries Abstracts* and are indexed annually in the Department's index to scientific and technical publications.

Numbers 1-25 in this series were issued as Fisheries and Marine Service Data Records. Numbers 26-160 were issued as Department of Fisheries and the Environment, Fisheries and Marine Service Data Reports. The current series' name was changed with report number 161 and is now Canadian Data Report of Fisheries and Aquatic Sciences.

Numbers 409, 460, 461, 462, 463, and 464 were issued too late for listing and indexing in previous indexes. They are indexed herein. The numerals in parentheses at the end of each reference indicate the name of the establishment from which the information or the report originated. See pages 2086 and 2087 for addresses corresponding to these numerals. Copies of Data reports may be obtained from Micromedia Limited, 165 Hotel de Ville, Hull (Québec) J8X 3X2.)

(REMARQUE: Ces rapports servent de base à la compilation des données de classement et d'archives pour lesquelles il y a peu ou point d'analyse. Cette compilation aura d'ordinaire été préparée pour appuyer d'autres publications ou rapports. Les sujets des Rapports statistiques reflètent la vaste gamme des intérêts et politiques du Ministère des Pêches et des Océans, notamment gestion des pêches, techniques et développement et environnements aquatiques, au Canada.

Les Rapports statistiques ne sont pas préparés pour une vaste distribution et leur contenu ne doit pas être mentionné dans une publication sans autorisation écrite préalable de l'établissement auteur. Le titre exact paraît au haut du résumé de chaque rapport, lequel est publié dans *Aquatic sciences and Fisheries Abstracts* et figure dans l'index annuel des publications scientifiques et techniques du Ministère.

Les numéros 1 à 25 de cette série ont été publiés à titre de Records statistiques, Service des pêches et de la mer. Les numéros 26-160 ont été publiés à titre de Rapports statistiques du Service des pêches et de la mer, Ministère des Pêches et de l'Environnement. Le nom de la série a été modifié à partir du numéro 161 et est maintenant Rapport statistique canadien des sciences halieutiques et aquatiques.

Les numéros 409, 460, 461, 462 et 464 ont paru trop tard pour l'inscription dans les index précédents. Vous les trouverez répertoriés ci-joint. Les chiffres entre parenthèses après le titre de chaque rapport représentent l'établissement qui a fourni les données ou le rapport. Vous trouverez aux pages 2086 et 2087 les adresses correspondant aux chiffres. Vous pouvez obtenir des copies des rapports statistiques en communiquant avec Micromedia Limited, 165 Hotel de Ville, Hull (Québec) J8X 3X2.)

409. MacKinlay, D. D. 1984. SEP New Projects Unit water quality data collected 1979-1984. 190 p. (12)

460. Bigg, M. A. 1984. Sighting and kill data for the Steller sea lion (*Eumetopias jubatus*) and California sea lion



- (*Zalophus californianus*) in British Columbia, 1892-1982, with some records from Washington and southeastern Alaska. 191 p. (1)
461. Cass, A. J., R. J. Beamish, and M. S. Smith. 1984. Study of the biology of lingcod off the west coast of Vancouver Island, M/V Arctic Harvester, November 22-December 2, 1977. 73 p. (1)
462. Damon, W., A. Solmie, and W. C. Clarke. 1984. Meteorological observations at the Pacific Biological Station experimental fish farm 1975-1982. 131 p. (1)
463. Bilton, H. T., R. B. Morley, A. S. Coburn, and D. Brouwer. 1984. Time and size at release experiment: four releases of three size categories of juvenile chinook salmon from the Quinsam Hatchery in the spring of 1983. 23 p. (1)
464. Foucher, R. P., and S. J. Westrheim. 1984. Landing statistics used to standardize trawling effort by vessel horsepower for Pacific cod (*Gadus macrocephalus*) and its principal shelf co-inhabitants, April-September, 1960-81. 34 p. (1)
470. Chilton, D. E., S. E. MacLellan, M. Burke, D. Barnes, and L. Zado. 1984. An inventory of fishes aged, from the Pacific coast commercial and research samples, by the Pacific Biological Station fish aging unit during 1982 and 1983. 45 p. (1)
471. Brown, T. J., and B. A. Kask. 1984. 1983 Campbell River miller net samples. 73 p. (1)
472. Lawrence, S. G., M. MacIver, and I. L. Delbaere. 1984. Species composition and seasonal abundance of zooplankton in Lake 114, Experimental Lakes Area, northwestern Ontario: before and during acidification 1970-1971, 1978-1983. 49 p. (4)
473. Roberge, M. M., and D. V. Gillman. 1984. Limnological and biological data from 41 lakes along the Ingraham Trail, Northwest Territories, 1979-80. 56 p. (4)
474. Hancock, M. J., and D. E. Marshall. 1984. Catalogue of salmon streams and spawning escapements of Sub-Districts 110 and 120 (Yukon-Arctic). 233 p. (12)
475. Francis, A. A. 1984. Numbers of Atlantic salmon ascending the Tobique Narrows fishway, Saint John River system, N.B., 1978-83. 15 p. (8)
476. Kask, B. A., and T. J. Brown. 1984. Meiofauna sled samples from Campbell River estuary and Discovery Passage 1982. 157 p. (1)
477. Moores, R. B., and E. G. M. Ash. 1984. Fishway and counting fence operations in Newfoundland and Labrador, 1949-79. 123 p. (9)
478. Ash, E. G. M. 1984. Atlantic salmon commercial catch statistics, Newfoundland and Labrador, 1982. 115 p. (9)
479. Schubert, N. D. 1984. The Indian food fishery of the Fraser River: 1983 summary. 67 p. (12)
480. Beacy, K. G. 1984. Hydrometeorological data for the Experimental Lakes Area, northwestern Ontario, 1979 to 1981. 146 p. (4)
481. O'Neil, S. F., and D. A. B. Swetnam. 1984. Collation of Atlantic salmon sport catch statistics, Maritime Provinces, 1970-79. 297 p. (8)
482. Hsiao, S. I. C., and N. Pinkewycz. 1984. Surface phytoplankton from 1982 cruises in Frobisher Bay. 46 p. (5)
483. Brown, T. J., R. F. Clarke, and B. A. Kask. 1984. Meiofauna sled samples from Campbell River estuary and Discovery Passage 1982 - calanoid copepod species identification. 22 p. (1)
484. Chang, P. S. S., D. F. Malley, W. J. Findlay, and R. T. Barnes. 1984. Zooplankton in Lake 226, Experimental Lakes Area, northwestern Ontario, 1971-1978. 208 p. (4)
485. Gillman, D. V., and A. H. Kristofferson. 1984. Biological data on Pacific herring (*Clupea harengus pallasii*) from Tuktoyaktuk Harbour and the Liverpool Bay area, Northwest Territories, 1981 to 1983. 22 p. (4)
486. Fargo, J., R. P. Foucher, J. Cooper, and S. C. Shields. 1984. Trawl survey of juvenile flatfish in Hecate Strait by the M/V Double Decker, April 10-27, 1984. 51 p. (1)
487. Linsey, G. A., and J. Braund. 1984. Water chemistry data from Lake 223 of the Experimental Lakes Area, northwestern Ontario, 1974 to 1982. 121 p. (4)

488. Westrheim, S. J., A. V. Tyler, R. P. Foucher, M. W. Saunders, and S. C. Shields. 1984. G.B. Reed groundfish cruise no. 84-3, May 24-June 14, 1984. 131 p. (1)
489. Ashfield, D., D. K. MacPhail, P. Mandell, and G. J. Farmer. 1984. Chemical characteristics of selected rivers in Nova Scotia and New Brunswick during 1983. 18 p. (8)
490. Orr, J. R., and P. R. Richard. 1985. Information collected from beluga whale (*Delphinapterus leucas*) hunts in Cumberland Sound, Baffin Island, Northwest Territories, 1982-1984. 32 p. (4)
491. Fargo, J., A. V. Tyler, J. Cooper, S. C. Shields, and S. Stebbins. 1984. Arctic Ocean assemblage survey of Hecate Strait, May 28-June 17, 1984. 108 p. (1)
492. Nassichuk, M. D., P. G. Futer, J. H. Patterson, and I. K. Birtwell. 1984. Water and sediment chemistry characteristics of the Tilbury and Deas Slough regions of the Fraser River. 72 p. (12)
493. Haegele, C. W. 1984. Herring tag returns in British Columbia for the 1983-84 herring season. 27 p. (1)
494. Hsiao, S. I. C., N. Pinkewycz, A. A. Mohammed, and E. H. Grainger. 1984. Sea ice biota and under-ice plankton from southeastern Hudson Bay in 1983. 49 p. (5)
495. Hancock, M. J., and D. E. Marshall. 1985. Catalogue of salmon streams and spawning escapements of Statistical Area 29, New Westminster Subdistrict. 90 p. (12)
496. Alderdice, D. F., F. E. A. Wood, and D. W. Narver (eds.). 1984. Salmonid enhancement program-- preliminary notes on new information in salmonid propagation. 102 p. (1)
497. Brown, T. J., B. A. Kask, B. D. Chang, M. Kotyk, C. D. McAllister, J. S. Macdonald, and C. D. Levings. 1984. Salmonid catch-data from Campbell River and Discovery Passage, 1984. 79 p. (1)
499. Kask, B. A., and T. J. Brown. 1985. Meiofauna sled samples from Campbell River estuary and Discovery Passage 1983. 207 p. (1)
500. Shaw, W., G. A. McFarlane, I. Barber, K. Rutherford, A. Cass, M. Saunders, R. Scarsbrook, and M. Smith. 1985. Biological survey of Pacific hake, walleye pollock, and spiny dogfish in selected inshore areas and in the open waters of the Strait of Georgia. R/V G.B. Reed, February 7-28 and April 18-24, 1983. 240 p. (1)
501. Jensen, J. O. T., A. N. Hally, and J. Schnute. 1985. Literature data on salmonid response to gas supersaturation and ancillary factors. 35 p. (1)
502. Rosenfeld, L., M. Stocker, and V. Haist. 1985. Summaries of British Columbia herring sampling data for the 1983-84 season. 227 p. (1)
503. Percy, J. A., and F. J. Fife. 1984. Summertime abundance and depth distribution of macrozooplankton in Frobisher Bay, N.W.T. from 1978 to 1983. 63 p. (5)
504. Hancock, M. J., and D. E. Marshall. 1985. Catalogue of salmon streams and spawning escapements of Statistical Area 14, Comox-Parksville. 134 p. (12)
505. Roberge, M. M., and J. B. Dunn. 1985. Biological investigation of Mosquito Lake, Northwest Territories. 24 p. (4)
506. Serbic, G., A. Alexander, F. Y. C. Wong, and M. Birch. 1985. Index of salmon spawning streams of British Columbia. 115 p. (1)
507. Sprout, P. E. 1985. Catch information from salmon seine charter in Area 6, July 9 - August 2, 1984. 20 p. (2)
509. Linsey, G. A., J. Braund, M. P. Stainton, and J. Prokopowich. 1985. Water chemistry data from the north and south basins of Lake 302 in the Experimental Lakes Area, northwestern Ontario, 1968 to 1983. 307 p. (4)
511. Richards, L. J., and A. J. Cass. 1985. Transect counts of rockfish in the Strait of Georgia from the submersible PISCES IV, October and November 1984. 99 p. (1)
512. Schubert, N. D. 1985. The Indian food fishery of the Fraser River: 1984 summary. 64 p. (12)
513. Kotyk, M. S., T. J. Brown, B. A. Kask, C. D. Levings, C. D. McAllister, J. S. Macdonald, and B. D. Chang. 1985. Length and weight data for unmarked juvenile salmonids sampled in the Campbell River estuary and Discovery Passage, 1984. 54 p. (3)

514. Ryan, P. M., L. J. Cole, and D. P. Riche. 1985. Macrozoobenthos collections from lakes and streams of the Experimental Ponds Area, central Newfoundland, 1977-82. 100 p. (9)
515. Saunders, M. W., G. A. McFarlane, and M. S. Smith. 1985. Results of spiny dogfish (*Squalus acanthias*) tagging in British Columbia waters during 1982 and 1983. 228 p. (1)
516. Brown, T. J., and B. A. Kask. 1985. 1984 Campbell River zooplankton samples. 69 p. (1)
517. Foucher, R. P., and M. G. Giudici. 1985. Landings and age compositions for Pacific cod (*Gadus macrocephalus*) from the Strait of Georgia and the Strait of Juan de Fuca, 1945-84. 32 p. (1)
518. Hancock, M. J., and D. E. Marshall. 1985. Catalogue of salmon streams and spawning escapements of Statistical Area 29, Mission-Harrison. 117 p. (12)
519. Carder, G. W., and G. Low. 1985. Data from the commercial fishery for Arctic charr, *Salvelinus alpinus* (Linnaeus), in the Cambridge Bay and Rankin Inlet areas, Northwest Territories, 1983-84. 26 p. (4)
520. Macdonald, J. S., G. M. Kruzynski, I. K. Birtwell, K. D. Seaman, L. Del Mistro, and M. Kotyk. 1985. Juvenile salmonid food and plankton samples from an inner and outer estuarine station in the Campbell River estuary, British Columbia, 1984. 27 p. (3)
521. Hancock, M. J., and D. E. Marshall. 1985. Catalogue of salmon streams and spawning escapements of Statistical Area 29, Chilliwack-Hope. 132 p. (12)
525. Nagtegaal, D. A., B. M. Leaman, and R. D. Stanley. 1985. Pacific ocean perch data collected during jointly funded cruises aboard the M/V *Ocean Selector* (August 10-22) and the M/V *Free Enterprise No. 1* (July 31-August 9, 1983). 10 p. (1)
526. Leaman, B. M., D. A. Nagtegaal, R. D. Stanley, and E. W. Carter. 1985. Rockfish fecundity cruise (GBR-R82-1), November 8-28, 1982. 64 p. (1)
527. Kotyk, M. S., T. J. Brown, B. Kask, C. D. Levings, C. D. McAllister, J. S. Macdonald, and B. D. Chang. 1985. Data record on coded wire tags recovered from juvenile salmonids at Campbell River estuary and Discovery Passage, 1984. 17 p. (3)
529. Farwell, M. K. 1985. The chum salmon test fishery in the Fraser River: catch and effort summary, 1963 and 1965 to 1984. 323 p. (12)
531. McGowan, D. K. 1985. Data from test fisheries conducted in the Baffin and central Arctic regions, Northwest Territories, 1980-84. 68 p. (4)
539. Hsiao, S. I. C., and N. Pinkewycz. 1985. Arctic marine phytoplankton contributed to the sediments in Frobisher Bay. 106 p. (5)
540. Raymond, J. L. (ed.). 1985. Scotia-Fundy Region fishing community profiles. 461 p. (8)

CANADIAN INDUSTRY REPORT OF FISHERIES AND AQUATIC SCIENCES/  
RAPPORT CANADIEN A L'INDUSTRIE SUR LES SCIENCES HALIEUTIQUES ET AQUATIQUES

Abbreviation/Abréviation: IF

(NOTE: These reports contain the results of research and development that are useful to industry for either immediate or future application. Industry reports are directed primarily towards individuals in the primary and secondary sectors of the fishing and marine industries. No restriction is placed on subject matter and the series reflects the broad interests and policies of the Department of Fisheries and Oceans, namely, fisheries management, technology and development, and aquatic environments relevant to Canada.

Industry reports may be cited as full publications. The correct citation appears above the abstract of each report. Each report will be abstracted in *Aquatic Sciences and Fisheries Abstracts* and will be indexed annually in the Department's index to scientific and technical publications.

Numbers 1-91 in this series were issued as Project Reports of the Industrial Development Branch, Technical Reports of the Industrial Development Branch, and Technical Reports of the Fisherman's

Service Branch. Numbers 92-110 were issued as Department of Fisheries and the Environment, Fisheries and Marine Service Reports. The current series' name was changed with report number 111 and is now Canadian Industry Report of Fisheries and Aquatic Sciences.

Number 149 was issued too late for listing and indexing in previous indexes. It is indexed herein. The numerals in parentheses at the end of each reference indicate the name of the establishment from which the information or the report originated. See pages 2086 and 2087 for addresses corresponding to these numerals. Copies of Industry reports may be obtained from Micromedia Limited, 165 Hotel de Ville, Hull (Québec) J8X 3X2.)

(REMARQUE: Ces rapports contiennent les résultats des recherches et des progrès qui peuvent être utiles à l'industrie pour des applications soit immédiates, soit futures. Ils sont préparés à l'intention principalement des membres des secteurs primaire et secondaire de l'industrie des pêches et de la mer. Il n'y a aucune restriction quant au sujet; de fait, la série reflète la vaste gamme des intérêts et des politiques du Ministère des Pêches et des Océans, notamment gestion des pêches, techniques et développement et environnements aquatiques, au Canada.

Les Rapports destinés à l'industrie peuvent être considérés comme des publications complètes. Le titre exact paraît au haut du résumé le chaque rapport, qui sera publié dans la revue *Aquatic Sciences and Fisheries Abstracts* et qui figurera dans l'index annuel des publications scientifiques et techniques du Ministère.

Les numéros de 1 à 91 de cette série ont été publiés à titre de rapports sur les travaux de la Direction du développement industriel, de rapports techniques de la Direction du développement industriel, et de rapports techniques de la Direction des services aux pêcheurs. Les numéros 92 à 110 ont été publiés à titre de Rapports à l'industrie du Service des pêches et de la mer, Ministère des Pêches et de l'Environnement. Le nom de la série a été changé à partir du rapport numéro 111 et est maintenant Rapport canadien à l'industrie sur les sciences halieutiques et aquatiques.

Le numéro 149 on paru trop tard pour l'inscription dans les index précédents. Vous le trouverez répertoriés ci-joint. Les chiffres entre parenthèses après chaque titre représentent l'établissement qui a fourni les données ou le rapport. Vous trouverez aux pages 2086 et 2087 les adresses correspondant aux chiffres. Vous pouvez obtenir des copies des Rapports à l'industrie en communiquant avec Micromedia Limited, 165 Hotel de Ville, Hull (Québec) J8X 3X2.)

149. Steinberg, C. 1984. Structure and price determination in Maritimes port markets: a study of fishermen/buyer relations. 52 p. (10)  
of shell, block, flake and slush ice in terms of workability, physical characteristics and cooling effects on fish. (A) slush ice made from salt water, (B) shell, block and flake ice. 52 p. (8)
154. Haegele, C. W. 1984. Tagging of herring in British Columbia during the 1983-84 herring season. 26 p. (1)
155. Chaisson, D. R., and T. W. Rowell. 1985. Distribution, abundance, population structure, and meat yield of the ocean quahog (*Arctica islandica*) and Stimpson's surf clam (*Spisula polynyma*) on the Scotian Shelf and Georges Bank. 125 p. (8)
156. Farmer, P., and A. Billard. 1985. Gear damage in the Nova Scotia inshore fishery. 43 p. (8)
157. Sloan, N. A., and C. R. Gunn. 1985. Fishing, processing, and marketing of the jellyfish, *Aurelia aurita* (L.), from southern British Columbia. 29 p. (1)
158. Ward, W. J., G. A. Parrott, and D. G. Iredale. 1985. Fish waste as silage for use as an animal feed supplement. 10 p. (4)
159. Burns, B. G., P. J. Ke, D. C. Sloan, W. K. Rodman, C. D. MacGregor, and A. J. Hebda. 1985. Comparative evaluations
161. Chalmers, D. D., R. D. Humphries, and V. Miller. 1985. Review of the 1981-82 British Columbia herring fishery and spawn abundance. 65 p. (1)
162. Chalmers, D. D., and V. Miller. 1985. Review of the 1982-83 British Columbia herring fishery and spawn abundance. 59 p. (1)
163. Chalmers, D. D., and D. Haase. 1985. Review of the 1983-84 British Columbia herring fishery and spawn abundance. 68 p. (1)
165. Armstrong, R. W. 1985. The 1984 roe herring charter vessel monitoring and sampling program. 86 p. (1)
166. Armstrong, R. W. 1985. The 1985 roe herring charter vessel monitoring and sampling program. 101 p. (1)

CANADIAN TECHNICAL REPORT OF HYDROGRAPHY AND OCEAN SCIENCES/  
RAPPORT TECHNIQUE CANADIEN SUR L'HYDROGRAPHIE ET LES SCIENCES OCEANIQUES

Abbreviation/Abréviation: TH

(NOTE: These reports contain scientific and technical information that is of sufficient importance to be preserved but that is not appropriate for primary scientific publication. No restriction is placed on subject matter and the scope of this series reflects the programs and interests of the Ocean Science and Surveys (OSS) sector of the Department of Fisheries and Oceans.

Technical reports may be cited as full publications; the correct citation appears above the abstract of each report. The reports are abstracted in *Aquatic sciences and Fisheries Abstracts* and are indexed annually in the Department's index to scientific and technical publications.

Numbers 23, 28, and 29 were issued too late for listing and indexing in previous indexes. They are indexed herein. The numerals in parentheses at the end of each reference indicate the name of the establishment from which the information or the report originated. See pages 2086 and 2087 for addresses corresponding to these numerals. Copies of Technical reports can be obtained from Micromedia Limited, 165 Hotel de Ville, Hull (Québec) J8X 3X2.)

(REMARQUE: Ces rapports contiennent des données scientifiques et techniques suffisamment importantes pour être consignées mais qui ne se prêtent pas à la publication dans un journal scientifique. Comme il n'y a aucune restriction quant aux sujets abordés, la série reflète la vaste gamme des programmes et intérêts du service des Sciences et Levés océaniques du Ministère des Pêches et des Océans.

Les rapports techniques peuvent être considérés comme des publications à part entière; le titre exact paraît au-dessus du résumé de chaque rapport, lequel est publié dans *Aquatic Sciences and Fisheries Abstracts* et figure dans l'index annuel des publications scientifiques et techniques du Ministère.

Les numéros 23, 28 et 29 on paru trop tard pour l'inscription dans les index précédents. Vous les trouverez répertoriés ci-joint. Les chiffres entre parenthèses après chaque titre représentent l'établissement qui a fourni les données ou le rapport. Vous trouverez aux pages 2086 et 2087 les adresses correspondant aux chiffres. Vous pouvez obtenir des copies des rapports techniques en communiquant avec Micromedia Limited, 165 Hotel de Ville, Hull (Québec) J8X 3X2.)

- |  |  |
|--|--|
| <p>23. Barss, M. S., and G. L. Williams. 1983. Alphabetical listing of fossil dyncocyst species. 41 p. (7)</p> <p>28. Benoit, J. R., and J. C. H. Mungall. 1983. Proceedings of the 1982 Grand Banks current workshop. 43 p. (7)</p> <p>29. Lawrence, D. J., and R. W. Trites. 1983. Surface oil spill trajectory modelling for Georges and Browns banks. 30 p. (7)</p> <p>38. Juniper, S. K., and R. O. Brinkhurst (eds.). 1984. Proceedings of a Multidisciplinary Symposium on Saanich Inlet, 2nd February, 1983. 194 p. (14)</p> <p>39. Petrie, B., and A. Isenor. 1984. An analysis of satellite tracked drifter observations collected in the Grand Banks region. 69 p. (7)</p> <p>40. Lively, R. R. 1984. Current meter, meteorological, and sea-level observations off Cape Sable, Nova Scotia. 494 p. (7)</p> <p>42. Topliss, B. J. 1984. Remote sensing to bathymetry: an investigation into the effects of bottom reflectance on passive upwelling spectral irradiance. 21 p. (7)</p> | <p>43. Ellis, K., R. W. P. Nelson, and J. N. Smith. 1984. Pre-operational environmental monitoring report for the Point Lepreau, N. B. nuclear generating station - 1982. 173 p. (7)</p> <p>44. Brinkhurst, R. O., and M. J. Wetzel. 1984. Aquatic Oligochaeta of the World: Supplement. A catalogue of new freshwater species, descriptions, and revisions. 101 p. (14)</p> <p>46. Lively, R. R. 1984. Current meter and tide gauge observations for the Strait of Belle Isle. 166 p. (7)</p> <p>47. McKeown, D. L. 1984. O.R.E. trackpoint acoustic range-bearing receiver evaluation. 37 p. (7)</p> <p>52. Vermeer, K., and L. Rankin. 1984. Pelagic seabird populations in Hecate Strait and Queen Charlotte Sound: comparison with the west coast of the Queen Charlotte Islands. 40 p. (14)</p> <p>53F. Gobeil, C. et D. Cossa. 1984. Profils des teneurs en mercure dans les sédiments et les eaux interstitielles du fjord du Saguenay (Québec): données acquises au cours de la période 1978-83. 23 p. (13)</p> |
|--|--|



56. Vermeer, K. 1985. A five-year summary (1978-1982) of the nesting diet of Cassin's Auklets in British Columbia. 15 p. (14)
57. Ramsden, D., D. Whitfield, and G. Holloway. 1985. Spectral transform simulations of turbulent flows, with geophysical applications. 54 p. (14)

CANADIAN DATA REPORT OF HYDROGRAPHY AND OCEAN SCIENCES/  
RAPPORT STATISTIQUE CANADIEN SUR L'HYDROGRAPHIE ET LES SCIENCES OCEANQUES

Abbreviation/Abréviation: DH

(NOTE: This series provides a medium for documentation, archiving and dissemination of data compilations where little or no analysis is included. Such compilations will commonly have been prepared in support of other publications or of work related to the programs and interests of the Ocean Science and Surveys (OSS) sector of the Department of Fisheries and Oceans.

Data reports are not intended for general distribution and the contents must not be referred to in other publications without prior written authorization from the author. The correct citation appears above the abstract of each report. The reports are abstracted in *Aquatic Sciences and Fisheries Abstracts* and are indexed annually in the Department's index to scientific and technical publications.

Numbers 1, 5(7), 12, 16, and 18 were issued too late for listing and indexing in previous indexes. They are indexed herein. The numerals in parentheses at the end of each reference indicate the name of the establishment from which the information or the report originated. See pages 2086 and 2087 for addresses corresponding to these numerals. Copies of Data reports can be obtained from Micromedia Limited, 165 Hotel de Ville, Hull(Québec) J8X 3X2.)

(REMARQUE: Cette série permet de recueillir, de classer et de diffuser des ensembles de données qui ne contiennent pas d'analyse ou alors très peu. Ces données auront généralement été compilées pour appuyer d'autres publications ou travaux liés aux programmes et aux activités des Sciences et Levés océaniques du Ministère des Pêches et des Océans.

Les rapports statistiques ne font pas l'objet d'une distribution générale et ne peuvent être cités dans d'autres publications sans l'autorisation écrite de l'auteur. Le titre exact paraît au-dessus du résumé de chaque rapport, lequel est publié dans *Aquatic Sciences and Fisheries Abstracts* et figure dans l'index annuel des publications scientifiques et techniques du Ministère.

Les numéros 1, 5(7), 12, 16 et 18 ont paru trop tard pour l'inscription dans les index précédents. Vous les trouverez répertoriés ci-joint. Les chiffres entre parenthèses après chaque titre représentent l'établissement qui a fourni les données ou le rapport. Vous trouverez aux pages 2086 et 2087 les adresses correspondant aux chiffres. Vous pouvez obtenir des copies des rapports statistiques en communiquant avec Micromedia Limited, 165 Hotel de Ville, Hull(Québec) J8X 3X2.)

- |      |   |       |  |
|------|---|-------|--|
| 1.   | Smith, P. C., V. E. Champagne, A. S. Bennett, and A. W. Herman. 1983. Batfish sections near the edge of the Scotian Shelf, 1976-1977. 159 p. (7)  |       | Hewlett-Packard 7914 Winchester disk aboard C.S.S. Baffin. 11 p. (7)   |
| 5(7) | Birch, J. R., D. B. Fissel, A. B. Cornford, and H. Melling. 1984. Arctic data compilation and appraisal. Volume 7. Canada Basin-Arctic Ocean: physical oceanography - temperature, salinity, currents and water levels. 642 p. (14) | 21.   | Dobson, D., and B. Petrie. 1984. Long-term temperature monitoring program 1983, Newfoundland region. 411 p. (7)  |
| 12.  | Syvitski, J. P. M., and C. P. Blakeney (compilers). 1983. Sedimentology of Arctic Fjords Experiment: HU 82-031 data report, Volume 1. 935 p. (7)  | 22.   | Dobson, D., and B. Petrie. 1984. Long-term temperature monitoring program 1983, Scotia-Fundy, Gulf regions. 406 p. (7)   |
| 16.  | Walker, R. E. 1984. Wave statistics for the North Atlantic - 1970 to 1982. 291 p. (7)   | 23(1) | Thomson, R. E., W. R. Crawford, and W. S. Huggett. 1984. Water property observations off the west coast of Vancouver Island during CODE: May 1979 to September 1980. 273 p. (14) |
| 18.  | Varma, H. P. 1984. Field testing of the   | 23(2) | Thomson, R. E., W. R. Crawford, and W. S. Huggett. 1984. Water property observations off the west coast of Vancouver Island during CODE: May 1979 to September 1980. 376 p. (14) |

- 23(3) Thomson, R. E., W. R. Crawford, and W. S. Huggett. 1984. Water property observations off the west coast of Vancouver Island during CODE: May 1979 to September 1980. 390 p. (14) volume 1; Beaufort Sea: marine dredging activities 1959 to 1982. 192 p. (14)
25. Giovando, L. F. 1984. Observations of seawater temperature and salinity at British Columbia shore stations, 1982. 109 p. (14)
26. Lee, A. Y. P., D. J. Stucchi, and H. J. Freeland. 1984. Coastal Ocean Dynamics Experiment CTD Data Report: 1979 to 1981. 330 p. (14)
29. Whitney, F. A. (ed.), MEEE Group. 1984. The effects and fate of chemically dispersed crude oil in a marine ecosystem enclosure - data report and methods. 77 p. (14)
30. Giovando, L. F. 1985. Observations of seawater temperature and salinity at British Columbia shore stations, 1983. 109 p. (14)
31. Tabata, S., and J. L. Peart. 1985. Statistics of oceanographic data based on hydrographic/STD casts made at Ocean Station P during August 1956 through June 1981. 133 p. (14)
- 32(2) Sackman, T., and B. D. Smiley. 1985. Arctic industrial activities compilation: volume 2; Sverdrup Basin: hydrocarbon exploration 1974 to 1984. 181 p. (14)
36. Denman, K., R. Forbes, D. Mackas, S. Hill, and H. Sefton. 1985. Ocean ecology data report: British Columbia coastal waters, 29 June - 10 July 1983. 77 p. (14)
- 37(1) Birch, J. R., E. C. Luscombe, D. B. Fissel, and L. F. Giovando. 1985. West coast data inventory and appraisal. Volume 1. Dixon Entrance, Hecate Strait, Queen Charlotte Sound and adjoining B.C. coastal waters: physical oceanography - temperature, salinity, currents, water levels and waves, 1903 through 1984. Part 1, 302 p.; Part 2, 265 p. (14)
40. Thomson, R. E., W. R. Crawford, H. J. Freeland, and W. S. Huggett. 1985. Low-pass filtered current meter records for the west coast of Vancouver Island: Coastal Oceanic Dynamics Experiment, 1979-81. 102 p. (14)
- 32(1) Taylor, D. A., M. G. Reed, B. D. Smiley, and G. S. Floyd. 1985. Arctic industrial activities compilation: 41. Giovando, L. F. 1985. Observations of seawater temperature and salinity at British Columbia shore stations, 1984. 102 p. (14)

CANADIAN CONTRACTOR REPORT OF HYDROGRAPHY AND OCEAN SCIENCES/  
RAPPORT CANADIEN DES ENTREPRENEURS SUR L'HYDROGRAPHIE ET LES SCIENCES Océaniques

Abbreviation/Abréviation: CH

(NOTE: Contractor reports are unedited, final reports from scientific and technical projects contracted by the Ocean Science and Surveys (OSS) sector of the Department of Fisheries and Oceans. The contents of the reports are the responsibility of the contractor and do not necessarily reflect the official policies of the Department. If warranted, contractor reports may be rewritten for other publication series of the Department or for publication outside the government.)

Contractor reports are not intended for general distribution and the contents must not be referred to in other publications without prior written authorization from the author. The correct citation appears above the abstract of each report. The reports are abstracted in *Aquatic Sciences and Fisheries Abstracts* and are indexed annually in the Department's index to scientific and technical publications.

Numbers 10 and 12 were issued too late for listing and indexing in previous indexes. They are indexed herein. The numerals in parentheses at the end of each reference indicate the name of the establishment from which the information or the report originated. See pages 2086 and 2087 for addresses corresponding to these numerals. Copies of Contractor reports can be obtained from Micromedia Limited, 165 Hotel de Ville, Hull (Québec) J8X 3X2.)

(REMARQUE: Les rapports des entrepreneurs sont les comptes rendus finals et non corrigés des projets scientifiques et techniques adjugés par les Sciences et Levés océaniques (SLO) du Ministère des Pêches et des Océans. Le contenu est la responsabilité de l'entrepreneur et ne reflète pas

nécessairement les politiques officielles du Ministère. Au besoin, les rapports des entrepreneurs peuvent être retravaillés et paraître dans une autre série de publications du Ministère ou à l'extérieur du gouvernement.

Les rapports des entrepreneurs ne font pas l'objet d'une distribution générale et ne peuvent être cités dans d'autres publications sans l'autorisation écrite de l'auteur. Le titre exact paraît au-dessus du résumé de chaque rapport, lequel est publié dans *Aquatic Sciences and Fisheries Abstracts* et figure dans l'index annuel des publications scientifiques et techniques du Ministère.

Les numéros 10 et 12 ont paru trop tard pour l'inscription dans les index précédents. Vous les trouverez répertoriés ci-joint. Les chiffres entre parenthèses après chaque titre représentent l'établissement qui a fourni les données ou le rapport. Vous trouverez aux pages 2086 et 2087 les adresses correspondant aux chiffres. Vous pouvez obtenir des copies des rapports entrepreneurs en communiquant avec Micromedia Limited, 165 Hotel de Ville, Hull(Québec) J8X 3X2.)

10. Hodgins, D. O., P. H. LeBlond, and D. A. Huntley. 1985. Shallow-water wave calculations. 75 p. (10)
12. Hodgins, D. O. 1985. A review of extreme wave conditions in the Beaufort Sea. 160 p. (10)
19. Henry, R. F. 1984. Flood hazard delineation at Tuktoyaktuk. 117 p. (14)
20. Woods, S. M. (ed.). 1985. Report on Ocean Dumping R and D Pacific Region. Department of Fisheries and Oceans, 1983-84. 53 p. (14)

## STUDIES/ETUDES

Abbreviation/Abréviation: S

(NOTE: Items in the Studies Series document the contributions of Department scientists to non-DFO publications. Until 1970, reprints of these articles had been included in an annual volume of *Studies* composed of two parts. The final binding was the 1969 *Studies*, part 2, the last entry of which was No. 1355. These are no longer bound and distributed. We continue, however, to number and list the articles in the Studies Series and to index them annually. The author or originating establishment is indicated by the numeral at the end of each reference. See pages 2086 and 2087 for addresses corresponding to these numerals. Please consult the journal in which the article appeared for further information.)

(REMARQUE: Les articles traitant de la série d'études donnent des renseignements sur la collaboration des scientifiques du MPO à des publications extérieures au Ministère. Jusqu'en 1970, ces articles ont été réimprimés dans un volume annuel intitulé *Studies* composé de deux parties. La dernière parution a été dans *Studies* 1969, partie 2, qui se terminait par l'article numéro 1355. Nous avons depuis cessé de faire paraître ce volume. Nous continuons cependant à numéroter et à énumérer les articles dans la série d'études et à les inclure chaque année dans cet index. L'auteur ou l'établissement de provenance est indiqué par le numéro à la fin de chaque référence. Voir aux pages 2086 et 2087 les adresses correspondant à ces numéros. Pour plus d'information à ce sujet, veuillez consulter le numéro du journal où se trouve l'article.)

3326. Bailey, J. K., and R. L. Saunders. 1984. Returns of three year-classes of sea-ranched Atlantic salmon of various river strains and strain crosses. *Aquaculture* 41: 259-270. (6)
3327. Katopodis, C., and N. Rajaratnam. 1984. Similarity of scale models of Denil fishways, 6 p. In H. Kobus (ed.) Symposium on scale effects in modelling hydraulic structures, September 3-6, 1984, Technische Akademie Esslingen, W. Germany. (4)
3328. Oliver, B. G., and A. J. Niimi. 1984. Rainbow trout bioconcentration of some halogenated aromatics from water at at environmental concentrations. *Environ. Toxicol. Chem.* 3: 271-277. (11)
3329. Dempson, J. B., and R. K. Misra. 1984. Identification of anadromous Arctic charr (*Salvelinus alpinus*) stocks in coastal areas of northern Labrador based on a multivariate statistical analysis of meristic data. *Can. J. Zool.* 62: 631-636. (8)
3330. Rajaratnam, N., and C. Katopodis. 1984. Hydraulics of Denil fishways. *J. Hydraul. Eng.* 110: 1219-1233. (4)
3331. Bower, S. M., and L. Margolis. 1984.

- Detection of infection and susceptibility of different Pacific salmon stocks (*Oncorhynchus* spp.) to the haemoflagellate *Cryptobia salmositica*. *J. Parasit.* 70: 273-278. (1)
3332. Gibson, R. J., J.-P. Thonney, and K. Hillier. 1984. An easterly extension in the known range for *Fundulus diaphanus* in Newfoundland. *Natur. can. (Rev. Ecol. Syst.)* 111: 213-214. (9)
3333. Shotton, R., and G. P. Bazigos. 1984. Techniques and considerations in the design of acoustic surveys. *Rapp. P.-v. Réun. Cons. int. Explor. Mer* 184: 34-57. (7)
3334. Subba Rao, D. V., and P. A. Yeats. 1984. Effect of iron on phytoplankton production in the Sargasso Sea. *J. Exp. Mar. Biol. Ecol.* 81: 281-289. (7)
3335. Platt, T., M. Lewis, and R. Geider. 1984. Thermodynamics of the pelagic ecosystem: elementary closure conditions for biological production in the open ocean, p. 49-84. In M. J. R. Fasham (ed.) *Flows of energy and materials in marine ecosystems*. Plenum Publ. Corp., New York. (7)
3336. Dickie, L. M., R. G. Dowd, and P. R. Boudreau. 1984. Acoustic estimates of demersal fish using a dual-beam transducer in laboratory and field. *J. Acoust. Soc. Am.* 76: 1175-1183. (7)
3337. Kerr, S. R., and L. M. Dickie. 1984. Measuring the health of aquatic ecosystems, p. 279-284. In V. W. Cairns, P. V. Hodson, and J. O. Nriagu (eds.) *Contaminant effects on fisheries*. John Wiley & Sons, Inc., New York. (7)
3338. Shaw, D. H., and M. J. Squires. 1984. O-antigen structure in a virulent strain of *Aeromonas hydrophila*. *FEMS Microbiol. Lett.* 24: 277-280. (9)
3339. Pinhorn, A. T. 1984. Inshore exploitation of Atlantic cod, *Gadus morhua*, in Labrador and eastern Newfoundland waters. *J. Northw. Atl. Fish. Sci.* 5: 79-84. (9)
3340. Levy, E. M. 1984. Oil pollution in the world's oceans. *AMBIO* 13: 226-235. (7)
3341. Klut, M. E., N. J. Antia, and T. Bisalputra. 1984. Some properties of a fluoride-resistant mutant of the marine dinoflagellate *Amphidinium carterae*. *Phycologia* 23: 301-310. (3)
3342. Foucher, R. P., R. G. Bakkala, and D. Fournier. 1984. Comparison of age frequency derived by length-frequency analysis and scale reading for Pacific cod in the North Pacific Ocean. *Int. North Pac. Fish Comm. Bull.* 42: 232-242. (1)
3343. Kabata, Z. 1984. A contribution to the knowledge of Chondracanthidae (Copepoda: Poecilostomatoida) parasitic on fishes of British Columbia. *Can. J. Zool.* 62: 1703-1713. (1)
3344. Solar, I. I., E. M. Donaldson, and G. A. Hunter. 1984. Induction of triploidy in rainbow trout (*Salmo gairdneri* Richardson) by heat shock, and investigation of early growth. *Aquaculture* 42: 57-67. (3)
3345. Arthur, J. R., and L. Margolis. 1984. *Trichodina truttae* Mueller, 1937 (Ciliophora: Peritrichida), a common pathogenic ectoparasite of cultured juvenile salmonid fishes in British Columbia: redescription and examination by scanning electron microscopy. *Can. J. Zool.* 62: 1842-1848. (1)
3346. Lewis, M. R., E. P. W. Horne, J. J. Cullen, N. S. Oakey, and T. Platt. 1984. Turbulent motions may control phytoplankton photosynthesis in the upper ocean. *Nature* 311: 49-50. (7)
3347. Smith, R. E. H., R. J. Geider, and T. Platt. 1984. Microplankton productivity in the oligotrophic ocean. *Nature* 311: 252-254. (7)
3348. Selsby, J. R. 1984. An all-purpose lifting bar for fisheries operations. *The Progressive Fish-Culturist* 46: 148-150. (1)
3349. Richards, L. J. 1983. Hunger and the optimal diet. *Am. Nat.* 122: 326-334. (1)
3350. Richards, L. J. 1983. Feeding and activity patterns of an intertidal beetle. *J. Exp. Mar. Biol. Ecol.* 73: 213-224. (1)
3351. Dadswell, M. J. 1984. Status of the shortnose sturgeon, *Acipenser brevirostrum*, in Canada. *Can. Field-Nat.* 98: 75-79. (6)
3352. Aiken, D. E., S. L. Waddy, K. Moreland, and S. M. Polar. 1984. Electrically induced ejaculation and artificial

- insemination of the American lobster *Homarus americanus*. J. Crustacean Biol. 4: 519-527. (6)
3353. Kelly, C. A., and J. W. M. Rudd. 1984. Epilimnetic sulfate reduction and its relationship to lake acidification. Biogeochemistry 1: 63-77. (4)
3354. Lowe-Jinde, L., and A. J. Niimi. 1984. Short-term and long-term effects of cadmium on glycogen reserves and liver size in rainbow trout (*Salmo gairdneri* Richardson). Arch. Environ. Contam. Toxicol. 13: 759-764. (11)
3355. Furutani, A., J. W. M. Rudd, and C. A. Kelly. 1984. A method for measuring the response of sediment microbial communities to environmental perturbations. Can. J. Microbiol. 30: 1408-1414. (4)
3356. Morrison, C. M., V. Marryatt, and B. Gray. 1984. Structure of *Pleistophora hippoglossoides* Bosanquet in the American plaice *Hippoglossoides platessoides* (Fabricius). J. Parasit. 70: 412-421. (8)
3357. White, A. W. 1984. Paralytic shellfish toxins and finfish, p. 171-180. In E. P. Ragelis (ed.) ACS Symposium Series 262, Seafood toxins. Am. Chem. Soc. (6)
3358. Addison, R. F., and P. F. Brodie. 1984. Characterization of ethoxyresorufin O-de-ethylase in grey seal *Halichoerus grypus*. Comp. Biochem. Physiol. 79: 261-263. (7)
3359. Dadswell, M. J., B. D. Taubert, T. S. Squiers, D. Marchette, and J. Buckley. 1984. Synopsis of biological data on shortnose sturgeon, *Acipenser brevirostrum* LeSueur 1818. NOAA Tech. Rep. NMFS 14, FAO Fish. Synop. 140: 45 p. (6)
3360. Lear, W. H. 1984. Discrimination of the stock complex of Atlantic cod (*Gadus morhua*) off southern Labrador and eastern Newfoundland, as inferred from tagging studies. J. Northw. Atl. Fish. Sci. 5: 143-159. (9)
3361. Ray, S., M. Woodside, V. E. Jerome, and H. Akagi. 1984. Copper, zinc, cadmium, and lead in scallops (*Placopecten magellanicus*) from Georges and Browns banks. Chemosphere 13: 1247-1254. (6)
3362. Cobb, D. G., J. F. Flannagan, and M. K. Friesen. 1984. Emergence of Trichoptera from two streams of the Duck Mountains in west-central Manitoba, p. 75-87. In J. C. Morse (ed.) Series Entomologica, Vol. 30, Fourth International Symposium on Trichoptera, 11-16 July 1983, Clemson, SC. Dr. W. Junk Publishers, The Hague. (4)
3363. Michon, F., D. H. Shaw, and J. H. Banoub. 1984. Structure of the lipopolysaccharide core isolated from a human strain of *Aeromonas hydrophila*. Eur. J. Biochem. 145: 107-114. (9)
3364. Ruangpan, L., and Z. Kabata. 1984. An invertebrate host for *Caligus* (Copepoda, Caligidae)? Crustaceana 47: 219-220. (1)
3365. Solar, I. I., E. M. Donaldson, and G. A. Hunter. 1984. Optimization of treatment regimes for controlled sex differentiation and sterilization in wild rainbow trout (*Salmo gairdneri* Richardson) by oral administration of 17 $\alpha$ -methyltestosterone. Aquaculture 42: 129-139. (3)
3366. Hecky, R. E. 1984. African lakes and their trophic efficiencies: a temporal perspective, p. 405-448. In Trophic interactions within aquatic ecosystems. AAAS, Washington, D. C. (4)
3367. Lachance, M., D. Brouard, R. Van Coillie et J.-D. Dutil. 1983. Composition chimique des eaux de la rivière Sainte-Marguerite en période de fonte. Water Poll. Res. J. Can. 18: 85-102. (13)
3368. Nagtegaal, D. A. 1983. A golden-yellow colored sablefish, *Anoplopoma fimbria*, caught off Quatsino Sound, British Columbia. Can. Field-Nat. 97: 106. (1)
3369. Dutil, J.-D. 1984. Electrolyte changes of serum and muscle, and related mortalities in maturing *Anguilla rostrata* migrating down the St. Lawrence Estuary (Canada). Helgoländer Meeresunters 37: 425-432. (13)
3370. Mitchell, E. D. 1984. Ecology of North Atlantic boreal and Arctic monodontid and mysticete whales, p. 65-78. In Arctic whaling. Arctic Centre, University of Groningen, Netherlands. (5)
3371. Reeves, R. R., and E. D. Mitchell. 1984. Catch history and initial population of white whales (*Delphinapterus leucas*) in the River and Gulf of St. Lawrence, eastern Canada. Natur. can. (Rev. Ecol. Syst.) 111: 63-121. (5)



3372. Subba Rao, D. V., and T. Platt. 1984. Primary production of arctic waters. *Polar Biol.* 3: 191-201. (7)
3373. Gassmann, G., and R. Pocklington. 1984. Hydrocarbons in waters adjacent to an oil exploratory site in the western North Atlantic Ocean. *Environ. Sci. Technol.* 18: 869-872. (7)
3374. Loring, D. H. 1984. Trace-metal geochemistry of sediments from Baffin Bay. *Can. J. Earth Sci.* 21: 1368-1378. (7)
3375. Smith, J. N., and C. T. Schafer. 1984. Bioturbation processes in continental slope and rise sediments delineated by Pb-210, microfossil and textural indicators. *J. Mar. Res.* 42: 1117-1145. (7)
3376. Li, W. K. W. 1984. A modified logistic growth equation: effects of cadmium chloride on the diatom, *Thalassiosira weissflogh* and the dinoflagellate, *Amphidinium carteri* in unialgal and bialgal batch cultures. *Aquatic Toxicol.* 5: 307-313. (7)
3377. Fasham, M. J. R., T. Platt, B. Irwin, and K. Jones. 1985. Factors affecting the spatial pattern of the deep chlorophyll maximum in the region of the Azores Front. *Prog. Oceanogr.* 14: 129-165. (7)
3378. Sheldon, R. W. 1984. Phytoplankton growth rates in the tropical ocean. *Limnol. Oceanogr.* 29: 1342-1346. (7)
3379. Laws, E. A., D. G. Redalje, L. W. Haas, P. K. Bienfang, R. W. Eppley, W. G. Harrison, D. M. Karl, and J. Marra. 1984. High phytoplankton growth and production rates in oligotrophic Hawaiian coastal waters. *Limnol. Oceanogr.* 29: 1161-1169. (7)
3380. Evelyn, T. P. T., L. Prosperi-porta, and J. E. Ketcheson. 1984. The salmonid egg as a vector of the kidney disease bacterium, *Renibacterium salmoninarum*, p. 111-117. In *Acuigrup, Spain* (ed.) *Fish Diseases. Fourth COPRAQ Session, 26-30 October 1981, Madrid, Spain.* (1)
3381. Campbell, J. A., and P. A. Yeats. 1984. Dissolved chromium in the St. Lawrence Estuary. *Coast Shelf Sci.* 19: 513-522. (7)
3382. Li, W. K. W., and P. M. Dickie. 1984. Rapid enhancement of heterotrophic but not photosynthetic activities in arctic microbial plankton at mesobiotic temperatures. *Polar Biol.* 3: 217-226. (7)
3383. Vermeer, K., and S. J. Westrheim. 1982. Fish changes in diets of nestling rhinoceros auklets and their implications, p. 96-105. In D. N. Nettleship, G. A. Sangar, and P. F. Springer (eds.) *Marine birds: their feeding ecology and commercial fisheries relationships. Proc. Pacific Seabird Group Symp., 6-8 Jan. 1982, Seattle, WA.* (1)
3384. Bakkala, R., S. Westrheim, S. Mishima, C. Zhang, and E. Brown. 1984. Distribution of Pacific cod (*Gadus macrocephalus*) in the North Pacific Ocean. *Int. North Pac. Fish. Comm. Bull.* 42: 111-115. (1)
3385. Evelyn, T. P. T. 1984. Immunization against pathogenic vibrios, p. 121-150. In P. de Kinkelin (ed.) *Theoretical background and practical results on immunization against infectious diseases. Symposium on Fish Vaccination, O.I.E. Fish Diseases Comm., 20-22 February, 1984, Paris, France.* (1)
3386. Barber, F. G., J. D. Taylor, P. A. Bolduc, and T. S. Murty. 1983. Influence of ice cover on resonance phenomena in Tuktoyaktuk Harbour, p. 302-326. In T. J. McTiernan, and B. E. Demchuk (eds.) *Science, technology and arctic hydrocarbon exploration: the Beaufort experience. Proc. Symp., 34th Alaska Science Conference, September 20-October 1, 1983, Whitehorse, Yukon.* (14)
3387. Morrison, C. M., J. W. Cornick, G. Shum, and B. Zwicker. 1984. Histopathology of atypical *Aeromonas salmonicida* infection in Atlantic cod, *Gadus morhua* L. *J. Fish Dis.* 7: 477-494. (8)
3388. Kabata, Z. 1984. *Caligus sicarius* n.sp. (Copepoda: Siphonostomatoida), a parasite of *Crenimugil crenilabris* (Forsk., 1775) (Pisces: Teleostei) in the Gulf of Aqaba. *Wiad. Parazytol.* 3: 133-139. (1)
3389. Flannagan, P. M., and J. F. Flannagan. 1984. The post-glacial origin and present distribution of the mayflies (Ephemeroptera) of Manitoba, Canada, p. 149-169. In V. Landa et al. (eds.) *Proc. 4th Intern. Conf. on Ephemeroptera, 4-10 September, 1983, Bechyne, Czechoslovakia.* (4)

3390. Borgmann, U., and C. C. Charlton. 1984. Copper complexation and toxicity to *Daphnia* in natural waters. *J. Great Lakes Res.* 10: 393-398. (11)
3391. Flannagan, J. F., and D. G. Cobb. 1984. Production of *Hexagenia limbata* (Serville) and *H. rigida* (McDunnough) in Lake Winnipeg, Manitoba, p. 307-315. In V. Landa et al. (eds.) Proc. 4th Intern. Conf. on Ephemeroptera, 4-10 September, 1983, Bechyne, Czechoslovakia. (4)
3392. Addison, R. F., P. F. Brodie, M. E. Zinck, and D. E. Sergeant. 1984. DDT has declined more than PCBs in eastern Canadian seals during the 1970s. *Environ. Sci. Technol.* 18: 935-937. (7)
3393. Hargrave, B. T., G. C. Harding, K. F. Drinkwater, T. C. Lambert, and W. G. Harrison. 1985. Dynamics of the pelagic food web in St. Georges Bay, southern Gulf of St. Lawrence. *Mar. Ecol. Prog. Ser.* 20: 221-240. (7)
3394. Smith, J. C., T. Platt, W. K. W. Li, E. P. W. Horne, W. G. Harrison, D. V. Subba Rao, and B. D. Irwin. 1985. Arctic marine photoautotrophic picoplankton. *Mar. Ecol. Prog. Ser.* 20: 207-220. (7)
3395. Smith, S. D., and E. P. Jones. 1985. Evidence for wind-pumping of air-sea gas exchange based on direct measurements of CO<sub>2</sub> fluxes. *J. Geophys. Res.* 90: 869-875. (7)
3396. Horne, E. P. W. 1985. Ice-induced vertical circulation in an Arctic fiord. *J. Geophys. Res.* 90: 1078-1086. (7)
3397. Beacham, T. D. 1984. Age and morphology of chum salmon in southern British Columbia. *Trans. Am. Fish. Soc.* 113: 727-736. (1)
3398. Sloan, N. A., S. M. Bower, and S. M. C. Robinson. 1984. Cocoon deposition on three crab species and fish parasitism by the leech *Notostomum cyclostoma* from deep fjords in northern British Columbia. *Mar. Ecol. Prog. Ser.* 20: 51-58. (1)
3399. Jensen, J. O. T., and D. F. Alderdice. 1984. Effect of temperature on short-term storage of eggs and sperm of chum salmon (*Oncorhynchus keta*). *Aquaculture* 37: 251-265. (1)
3400. Addison, R. F. 1984. Marine ecotoxicological testing in Canada - a personal assessment, p. 163-177. In G. Persoone, E. Jaspers, and C. Claus (eds.) *Ecotoxicological testing for the marine environment*, Vol. 1. State Univ. Ghent and Inst. Mar. Scient. Res., Bredene, Belgium. (7)
3401. Muir, D. C. G., B. E. Townsend, and G. R. B. Webster. 1985. Bioavailability of <sup>14</sup>C-1,3,6,8-tetrachlorodibenzo-p-dioxin and <sup>14</sup>C-octachlorodibenzo-p-dioxin to aquatic insects in sediment and water, p. 89-102. In L. H. Keith, C. Rappe, and G. Choudhary (eds.) *Chlorinated dioxins and dibenzofurans in the total environment*. Vol. II. Butterworth, Boston. (4)
3402. Sloan, N. A. 1984. Incidence and effects of parasitism by the rhizocephalan barnacle, *Briarosaccus callosus* Boschma, in the golden king crab, *Lithodes aequispina* Benedict, from deep fjords in northern British Columbia, Canada. *J. Exp. Mar. Biol. Ecol.* 84: 111-131. (1)
3403. Scott, K. R., and L. Allard. 1984. A four-tank water recirculation system with a hydrocyclone prefilter and a single water reconditioning unit. *Prog. Fish-Cult.* 46: 254-261. (4)
3404. France, R. L. 1984. Comparative tolerance to low pH of three life stages of the crayfish *Orconectes virilis*. *Can. J. Zool.* 62: 2360-2363. (4)
3405. Reiger, A. W., D. C. G. Muir, and M. R. Hendzel. 1985. Gas chromatographic determination of picloram in fish. *J. Assoc. Off. Anal. Chem.* 68: 59-61. (4)
3406. Bower, S. M., and L. Margolis. 1984. Distribution of *Cryptobia salmositica*, a haemoflagellate of fishes, in British Columbia and the seasonal pattern of infection in a coastal river. *Can. J. Zool.* 62: 2512-2518. (1)
3407. Wildish, D. J., and M. L. H. Thomas. 1985. Effects of dredging and dumping on benthos of Saint John Harbour, Canada. *Mar. Environ. Res.* 15: 45-57. (6)
3408. Charles, A. T., and G. R. Munro. 1985. Irreversible investment and optimal fisheries management: a stochastic analysis. *Mar. Resour. Econ.* 1: 247-264. (12)
3409. Hoskins, G. E., and F. C. Dalziel. 1984. Survival of chinook fry (*Oncorhynchus tshawytscha*) following exposure to benzalkonium chloride in soft water. *Prog. Fish-Cult.* 46: 98-101. (1)

3410. Percy, J. A. 1985. Temperature tolerance, salinity tolerance, osmoregulation, and water permeability of arctic marine isopods of the *Mesidotea* (= *Saduria*) complex. *Can. J. Zool.* 63: 28-36. (5)
3411. Niimi, A. J., and V. Palazzo. 1985. temperature effect on the elimination of pentachlorophenol, hexachlorobenzene and mirex by rainbow trout (*Salmo gairdneri*). *Water Res.* 19: 205-207. (11)
3412. Sæther, O. A. 1983. *Oschia dorsenna* n.gen., n.sp. and *Saetheria hirta* n.sp., two new members of the *Harnischia* complex (Diptera: Chironomidae). *Ent. Scand.* 14: 395-404. (4)
3413. Sæther, O. A. 1983. A review of holarctic *Gymnometriocnemus* Goetghebuer, 1932, with the description of *Raphidocladus* subgen. n. and *Sublettiella* gen. n. (Diptera: Chironomidae). *Aquatic Insects* 5: 209-226. (4)
3414. Sæther, O. A. 1984. The immatures of *Antillocladius* Sæther, 1981 (Diptera: Chironomidae). *Aquatic Insects* 6: 1-6. (4)
3415. Muir, D. C. G., R. L. Corbet, G. R. B. Webster, and A. E. Smith. 1984. Preliminary report on the persistence of 1,3,6,8-TCDD in soils and sediments, p. 137-145. In P. N. P. Chow, and C. A. Grant (eds.) *Herbicide activity in plants and soils. Proc. 11th Workshop on Chemistry and Biochemistry of Herbicides*, 19-20 April 1983, Brandon, Man. (4)
3416. Kranck, K. 1984. Grain-size characteristics of turbidites, p. 83-92. In D. A. V. Stow, and D. J. W. Piper (eds.) *Fine-grained sediments: deep water processes and facies*. Blackwell Scientific Publications, Boston, MA. (7)
3417. Kepkay, P. E., and F. Ø. Andersen. 1985. Aerobic and anaerobic metabolism of a sediment enriched with *Spartina* detritus. *Mar. Ecol. Prog. Ser.* 21: 153-161. (7)
3418. Platt, T. 1984. Primary productivity in the central North Pacific: comparison of oxygen and carbon fluxes. *Deep-Sea Res.* 31: 1311-1319. (7)
3419. Platt, T. 1985. Phytoplankton production in oligotrophic marine ecosystems: the Mediterranean Sea, p. 231-245. In M. Moraitou-Apostolopoulou, and V. Kiortsis (eds.) *Mediterranean marine ecosystems*. Plenum Publ. Corp., New York. (7)
3420. Evans, R. E., and T. J. Hara. 1985. The characteristics of the electro-olfactogram (EOG): its loss and recovery following olfactory nerve section in rainbow trout (*Salmo gairdneri*). *Brain Res.* 330: 65-75. (4)
3421. McNicol, R. E., E. Scherer, and E. J. Murkin. 1985. Quantitative field investigations of feeding and territorial behaviour of young-of-the-year brook charr, *Salvelinus fontinalis*. *Environ. Biol. Fishes* 12: 219-229. (4)
3422. Muir, D. C. G., G. P. Rawn, B. E. Townsend, W. L. Lockhart, and R. Greenhalgh. 1985. Bioconcentration of cypermethrin, deltamethrin, fenvalerate and permethrin by *Chironomus tentans* larvae in sediment and water. *Environ. Toxicol. Chem.* 4: 51-61. (4)
3423. Wright, D. G., and J. W. Loder. 1985. A depth-dependent study of the topographic rectification of tidal currents. *Geophys. Astrophys. Fluid Dynamics* 31: 169-220. (7)
3424. Dalziel, J. A., and P. A. Yeats. 1985. Reactive mercury in the central North Atlantic Ocean. *Mar. Chem.* 15: 357-361. (7)
3425. Conover, R. J., and G. F. Cota. 1985. Balance experiments with Arctic zooplankton, p. 217-236. In J. S. Gray, and M. E. Christiansen (eds.) *Marine biology of polar regions and effects of stress on marine organisms*. John Wiley & Sons Ltd., New York. (7)
3426. Longhurst, A. R. 1985. The structure and evolution of plankton communities. *Prog. Oceanog.* 15: 1-35. (7)
3427. Niimi, A. J. 1985. Use of laboratory studies in assessing the behavior of contaminants in fish inhabiting natural ecosystems. *Water Poll. Res. J. Can.* 20: 79-88. (11)
3428. Campbell, A. 1985. Application of a yield and egg-per-recruit model to the lobster fishery in the Bay of Fundy. *North Am. J. Fish. Manage.* 5: 91-104. (6)

3429. Elner, R. W., C. A. Gass, and A. Campbell. 1985. Mating behavior of the Jonah crab, *Cancer borealis* Stimpson (Decapoda, Brachyura). *Crustaceana* 48: 34-39. (6)
3430. Peterson, R. H., J. L. Metcalfe, and S. Ray. 1985. Uptake of cadmium by eggs and alevins of Atlantic salmon (*Salmo salar*) as influenced by acidic conditions. *Bull. Environ. Contam. Toxicol.* 34: 359-368. (6)
3431. Aiken, D. E., and S. L. Waddy. 1985. Production of seed stock for lobster culture. *Aquaculture* 44: 103-114. (6)
3432. Percy, J. A., and P. G. Wells. 1985. Effects of petroleum in polar marine environments. *Mar. Technol. Soc. J.* 18(3): 11 p. (5)
3433. Vandermeulen, J. H., and E. S. Gilfillan. 1985. Petroleum pollution, corals and mangroves. *Mar. Technol. Soc. J.* 18(3): 11 p. (7)
3434. Kabata, Z. 1985. Parasites and diseases of fish cultured in the tropics. Taylor & Francis, Ltd.: London & Philadelphia, 318 p. (1)
3435. Evelyn, T. P. T. 1984. Book review: J. H. Crosa (ed.) Bacterial and viral diseases of fish. *Molecular studies. Fish. Res.* 2: 316-318. (1)
3436. Margolis, L., and B. Berland. 1984. A nomenclatural note concerning *Binoculus salmoneus* Müller, 1785 and *Lepeophtheirus salmonis* (Krøyer, 1837) (Copepoda: Caligidae). *Sarsia* 69: 219. (1)
3437. Charles, A. T. 1985. Nonlinear costs and optimal fleet capacity in deterministic and stochastic fisheries. *Math. Biosci.* 73: 271-299. (12)
3438. Beacham, T. D. 1985. Meristic and morphometric variation in pink salmon (*Oncorhynchus gorbuscha*) in southern British Columbia and Puget Sound. *Can. J. Zool.* 63: 366-372. (1)
3439. France, R. L. 1985. Low pH avoidance by crayfish (*Orconectes virilis*): evidence for sensory conditioning. *Can. J. Zool.* 63: 258-262. (4)
3440. Bratney, J., and A. Campbell. 1985. Occurrence of *Histiobdella homari* (Annelida: Polychaeta) on the American lobster in the Canadian Maritimes. *Can. J. Zool.* 63: 392-395. (6)
3441. Bower, S. M., and L. Margolis. 1985. Effects of temperature and salinity on the course of infection with the haemoflagellate *Cryptobia salmositica* in juvenile Pacific salmon, *Oncorhynchus* spp. *J. Fish Dis.* 8: 25-33. (1)
3442. Dutil, J.-D., and R. Lallier. 1984. Testing bacterial infection as a factor involved in the mortality of catadromous eels (*Anguilla rostrata*) migrating down the St. Lawrence Estuary (Canada). *Natur. can. (Rev. Ecol. Syst.)* 111: 395-400. (13)
3443. Li, W. K. W., and P. M. Dickie. 1985. Metabolic inhibition of size-fractionated marine plankton radiolabeled with amino acids, glucose, bicarbonate, and phosphate in the light and dark. *Microb. Ecol.* 11: 11-24. (7)
3444. Souter, B. W., A. G. Dwillow, K. Knight, and T. Yamamoto. 1984. Infectious pancreatic necrosis virus: isolation from asymptomatic wild Arctic char (*Salvelinus alpinus* L.). *J. Wildl. Dis.* 20: 338-339. (4)
3445. Waldichuk, M. 1985. Biological availability of metals to marine organisms. *Mar. Pollut. Bull.* 16: 7-11. (3)
3446. Kelly, R. K., and O. Nielsen. 1985. Inhibition of infectious pancreatic necrosis virus by serum from normal rainbow trout (*Salmo gairdneri*) in Canadian hatcheries. *Fish Pathol.* 19: 245-251. (4)
3447. Trites, R. W., D. R. McLain, and M. C. Ingham. 1985. Sea-surface temperatures along the continental shelf from Cape Hatteras to Hamilton Bank. *NAFO Sci. Coun. Studies* 8: 21-23. (7)
3448. Head, E. J. H., and L. R. Harris. 1985. Physiological and biochemical changes in *Calanus hyperboreus* from Jones Sound NWT during the transition from summer feeding to overwintering condition. *Polar Biol.* 4: 99-106. (7)
3449. Mann, K. H. 1985. Invertebrate behaviour and the structure of marine benthic communities, p. 227-246. In R. M. Sibby, and R. H. Smith (eds.) Behavioural ecology. Ecological consequences of adaptive behaviour. The 25th Symposium of The British Ecological Society, Reading, 1984. (7)
3450. Gordon, D. C. Jr., P. J. Cranford, and C. Desplanque. 1985. Observations on the

- ecological importance of salt marshes in the Cumberland Basin, a macrotidal estuary in the Bay of Fundy. *Estuarine, Coastal and Shelf Sci.* 20: 205-227. (7)
3451. Brodie, P. F. 1984. A surface area or thermal index for marine mammal energetic studies. *Acta Zool. Fennica* 172: 153-155. (7)
3452. Healey, F. P. 1985. Interacting effects of light and nutrient limitation on the growth rate of *Synechococcus linearis* (Cyanophyceae). *J. Phycol.* 21: 134-146. (4)
3453. Pinhorn, A. T., and R. G. Halliday. 1985. A framework for identifying fisheries management problems associated with the influence of environmental factors on distribution and migration of marine species. *NAFO Sci. Coun. Studies* 8: 83-92. (9)
3454. Dempson, J. B., and J. M. Green. 1985. Life history of anadromous arctic charr, *Salvelinus alpinus*, in the Fraser River, northern Labrador. *Can. J. Zool.* 63: 315-324. (9)
3455. Bal, A. K., A. C. Dey, and M. C. Hampson. 1984. Resting sporangium of *Synchytrium endobioticum*: its structure and composition of the lipids and fatty acids. *Arch. Microbiol.* 140: 178-182. (9)
3456. Evans, G. T., and J. S. Parslow. 1985. A model of annual plankton cycles. *Biol. Oceanogr.* 3: 327-347. (9)
3457. Bourgeois, C. E., and I-H. Ni. 1984. Metazoan parasites of Northwest Atlantic redfishes (*Sebastes* spp.). *Can. J. Zool.* 62: 1879-1885. (9)
3458. Payne, J. F. 1984. Mixed-function oxygenases in biological monitoring programs: review of potential usage in different phyla of aquatic animals, p. 625-655. In G. Persoone, E. Jaspers, and C. Claus (eds.) *Ecotoxicological testing for the marine environment*. State Univ. Ghent and Inst. Mar. Scient. Res., Bredene, Belgium. (9)
3459. Khan, R. A., and J. Kiceniuk. 1984. Histopathological effects of crude oil on Atlantic cod following chronic exposure. *Can. J. Zool.* 62: 2038-2043. (9)
3460. Margolis, L. 1984. Book review: A checklist of parasites of California, Oregon, and Washington marine and estuarine fishes, by M. S. Love, and M. Moser. *J. Parasitol.* 70: 962. (1)
3461. Sloan, N. A. 1985. Life history characteristics of fjord-dwelling golden king crabs *Lithodes aequispina*. *Mar. Ecol. Prog. Ser.* 22: 219-228. (1)
3462. Wildish, D. J., and J. Power. 1985. Avoidance of suspended sediments by smelt as determined by a new "single fish" behavioral bioassay. *Bull. Environ. Contam. Toxicol.* 34: 770-774. (6)
3463. Banoub, J. H., F. Michon, and D. H. Shaw. 1985. Formation of 3,4-di-O-acetyl-1,6-anhydro-2,7-di-O-methyl-L-glycero-D-manno-heptopyranose during methylation analysis of lipopolysaccharide cores representative of the Vibrionaceae family. *Carbohydr. Res.* 138: 171-175. (9)
3464. Pepper, V. A., and D. Stansbury. 1985. Weight and length variability of swim-up Atlantic salmon fry as an indicator of incubation efficiency. *Prog. Fish-Cult.* 47: 27-33. (9)
3465. Keeley, J. R. 1984. Observations of an internal resonance in a fjord. *J. Mar. Res.* 42: 873-891. (10)
3466. Beacham, T. D., and R. E. Withler. 1985. Heterozygosity and morphological variability of chum salmon (*Oncorhynchus keta*) in southern British Columbia. *Heredity* 54: 313-322. (1)
3467. Kabata, Z. 1983. Diseases caused by metazoans: crustaceans, p. 321-399. In O. Kinne (ed.) *Diseases of marine animals*. Vol. IV. Biologische Anstalt Helgoland, Hamburg. (1)
3468. Brunskill, G. J., and P. Wilkinson. 1985. Mass balance of uranium-series nuclides in streams and Lake 239 of the Experimental Lakes Area, Ontario, Canada. *Verh. Internat. Verein. Limnol.* 22: 2469. (4)
3469. Schindler, D. W., M. A. Turner, and R. H. Hesslein. 1985. Acidification and alkalization of lakes by experimental addition of nitrogen compounds. *Biogeochemistry* 1: 117-133. (4)
3470. Smith, R. E. H., W. G. Harrison, and L. Harris. 1985. Phosphorus exchange in marine microplankton communities near Hawaii. *Mar. Biol.* 86: 75-84. (7)
3471. Beacham, T. D., F. C. Withler, and R. B. Morley. 1985. Effect of egg size on



- incubation time and alevin and fry size in chum salmon (*Oncorhynchus keta*) and coho salmon (*Oncorhynchus kisutch*). Can. J. Zool. 63: 847-850. (1)
3472. Waldichuk, M. 1985. Methods for measuring the effects of chemicals on aquatic animals as indicators of ecological damage, p. 493-535. In V. B. Vouk, G. C. Butler, D. G. Hoel, and D. B. Peakall (eds.) Methods for estimating risk of chemical injury: human and non-human biota and ecosystems. SCOPE. (3)
3473. Herman, A. W. 1985. Biological profiling in the upper oceanic layers with a Batfish vehicle: a review of applications, p. 293-314. In A. Zirino (ed.) Mapping strategies in chemical oceanography. Advances in Chemistry Series 209, American Chemical Society. (7)
3474. Bell, G. R., and G. S. Traxler. 1985. First record of viral erythrocytic necrosis and *Ceratomyxa shasta* Noble, 1950 (Myxozoa: Myxosporidia) in feral pink salmon (*Oncorhynchus gorbuscha* Walbaum). J. Wildl. Dis. 21: 169-171. (1)
3475. Saunders, R. L., S. D. McCormick, E. B. Henderson, J. G. Eales, and C. E. Johnston. 1985. The effect of orally administered 3,5,3'-triiodo-L-thyronine on growth and salinity tolerance of Atlantic salmon (*Salmo salar* L.). Aquaculture 45: 143-156. (6)
3476. Saunders, R. L., E. B. Henderson, and P. R. Harmon. 1985. Effects of photoperiod on juvenile growth and smolting of Atlantic salmon and subsequent survival and growth in sea cages. Aquaculture 45: 55-66. (6)
3477. Richardson, N. L., D. A. Higgs, R. M. Beames, and J. R. McBride. 1985. Influence of dietary calcium, phosphorus, zinc and sodium phytate level on cataract incidence, growth and histopathology in juvenile chinook salmon (*Oncorhynchus tshawytscha*). J. Nutr. 115: 553-567. (3)
3478. Clarke, W. C., and J. E. Shelbourn. 1985. Growth and development of seawater adaptability by juvenile fall chinook salmon (*Oncorhynchus tshawytscha*) in relation to temperature. Aquaculture 45: 21-31. (1)
3479. Peterson, H. G., and F. P. Healey. 1985. Comparative pH dependent metal inhibition of nutrient uptake by *Scenedesmus quadricauda* (Chlorophyceae). J. Phycol. 21: 217-222. (4)
3480. Waldichuk, M. 1985. Roberts Bank coal port, British Columbia: how did the environmental impact assessment fare? Mar. Pollut. Bull. 16: 179-185. (3)
3481. Dehn, P. F., K. Haya, and D. E. Aiken. 1985. Adenylate energy charge, arginine phosphate and ATPase activity in juvenile *Homarus americanus* during the molt cycle. Comp. Biochem. Physiol. 81B: 629-633. (6)
3482. Kranck, K., and T. G. Milligan. 1985. Origin of grain size spectra of suspension deposited sediment. Geo-Marine Letters 5: 61-66. (7)
3483. Lewis, E. O. 1985. Detection of sea-ice features using K<sub>a</sub>-band radar. Electronics Letters 21: 499-500. (11)
3484. Schindler, D. W., K. H. Mills, D. F. Malley, D. L. Findlay, J. A. Shearer, I. J. Davies, M. A. Turner, G. A. Linsey, and D. R. Cruikshank. Long-term ecosystem stress: the effects of years of experimental acidification on a small lake. Science 228: 1395-1401. (4)
3485. Wells, P. G., and J. A. Percy. 1985. Effects of oil on Arctic invertebrates, p. 101-156. In F. R. Engelhardt (ed.) Petroleum effects in the Arctic environment. Elsevier Sci. Publ. Co., Inc., New York. (5)
3486. Percy, J. A., and F. J. Fife. 1985. Energy distribution in an Arctic coastal macrozooplankton community. Arctic 38: 39-42. (5)
3487. Glenn, C. L., and J. A. Mathias. 1985. Circuli development on body scales of young pond-reared walleye (*Stizostedion vitreum*). Can. J. Zool. 63: 912-915. (4)
3488. Bewers, J. M., P. A. Yeats, S. Westerlund, B. Magnusson, D. Schmidt, H. Zehle, S. S. Berman, A. Myktyuk, J. C. Duinker, R. F. Nolting, R. G. Smith, and H. L. Windom. 1985. An intercomparison of seawater filtration procedures. Mar. Pollut. Bull. 16: 277-281. (7)
3489. Willis, D. E., and R. F. Addison. 1985. Synthesis of 1-[<sup>14</sup>C]-phenyl-1-(3,4-dimethyl)phenylethane, a component of some PCB replacement materials. J. Labelled Compounds and Radiopharm. 22:

705-709. (7)

3490. Tait, B. J., and P. A. Bolduc. 1985. An update on rates of apparent vertical movement in the Great Lakes basin, p. 193-206. In NAVD Symposium '85. Proc. Third International Symposium on the North American Vertical Datum, April 21-26, 1985, Rockville, MD. (10)
3491. Van der Kraak, G., H. M. Dye, E. M. Donaldson, and G. A. Hunter. 1985. Plasma gonadotropin, 17 $\beta$ -estradiol, and 17 $\alpha$ ,20 $\beta$ -dihydroxy-4-pregmen-3-one levels during luteinizing hormone-releasing hormone analogue and gonadotropin induced ovulation in coho salmon (*Oncorhynchus kisutch*). Can. J. Zool. 63: 824-833. (3)
3492. Bormmann, U. 1985. Predicting the effect of toxic substances on pelagic ecosystems. Sci. Total Environ. 44: 111-121. (11)
3493. Elner, R. W., and R. E. Lavoie. 1983. Predation on American oysters (*Crassostrea virginica* (Gmelin)) by American lobsters (*Homarus americanus* Milne-Edwards), rock crabs (*Cancer irroratus* Say), and mud crabs (*Neopanope sayi* (Smith)). J. Shellfish Res. 3: 129-134. (6)
3494. Cota, G. F. 1985. Photoadaptation of high Arctic ice algae. Nature 315: 219-222. (7)
3495. Dobson, F. W., and S. D. Smith. 1985. Estimation of solar radiation at sea, p. 525-533. In Y. Toba, and H. Mitsuyasu (eds.) The ocean surface. D. Reidel Publ. Co., Holland. (7)
3496. Stuart, V., E. J. H. Head, and K. H. Mann. 1985. Seasonal changes in the digestive enzyme levels of the amphipod *Corophium volutator* (Pallas) in relation to diet. J. Exp. Mar. Biol. Ecol. 88: 243-256. (7)
3497. Scott, J. S. 1985. Digenean (Trematoda) populations in winter flounder (*Pseudopleuronectes americanus*) from Passamaquoddy Bay, New Brunswick, Canada. Can. J. Zool. 63: 1699-1705. (6)
3498. Bolduc, P.-A., H. A. C. Jones, and P. Erwin. 1985. The use of a Data Base Management System for national ocean data archiving in Canada, p. 135-141. In Proc. of 1985 Symposium Ocean Data: Sensor-to-User, May 1-3, 1985, New Orleans, LA. (10)
3499. Muir, D. C. G., A. L. Yarechewski, R. L. Corbet, G. R. B. Webster, and A. E. Smith. 1985. Laboratory and field studies on the fate of 1,3,6,8-tetrachlorodibenzo-*p*-dioxin in soil and sediments. J. Agric. Food Chem. 33: 518-523. (4)
3500. Dempson, J. B. 1984. Identification of anadromous Arctic charr stocks in coastal areas of northern Labrador, p. 143-162. In L. Johnston, and B. L. Burns (eds.) Biology of the Arctic charr. Proc. International Symposium on Arctic Charr, May 1981, Winnipeg, Manitoba. Univ. Manitoba Press, Winnipeg. (9)
3501. Ledrew, L. J. 1984. Historical development of the Arctic charr fishery in northern Labrador, p. 537-548. In L. Johnson, and B. L. Burns (eds.) Biology of the Arctic charr. Proc. International Symposium on Arctic Charr, May 1981, Winnipeg, Manitoba. Univ. Manitoba Press, Winnipeg. (9)
3502. Scott, J. S. 1985. Occurrence of alimentary tract helminth parasites of pollock (*Pollachius virens* L.) on the Scotian Shelf. Can. J. Zool. 63: 1695-1698. (6)
3503. Himmelman, J. H., and Y. Lavergne. 1985. Organization of rocky subtidal communities in the St. Lawrence Estuary. Natur. can. (Rev. Ecol. Syst.) 112: 143-154. (13)
3504. Lockhart, W. L., D. A. Metner, F. J. Ward, and G. M. Swanson. 1985. Population and cholinesterase responses in fish exposed to malathion sprays. Pestic. Biochem. Physiol. 24: 12-18. (4)
3505. Jones, K. A., T. J. Hara, and E. Scherer. 1985. Behavioral modifications in Arctic char (*Salvelinus alpinus*) chronically exposed to sublethal pH. Physiol. Zool. 58: 400-412. (4)
3506. Jones, K. A., T. J. Hara, and E. Scherer. 1985. Locomotor response by Arctic char (*Salvelinus alpinus*) to gradients of H<sup>+</sup> and CO<sub>2</sub>. Physiol. Zool. 58: 413-420. (4)
3507. Levings, C. D. 1985. Juvenile salmonid use of habitats altered by a coal port in the Fraser River estuary, British Columbia. Mar. Pollut. Bull. 16: 248-254. (3)
3508. Muir, D. C. G., G. P. Rawn, and N. P. Grift. 1985. Fate of the pyrethroid insecticide deltamethrin in small ponds: a mass balance study. J. Agric. Food Chem. 33: 603-609. (4)

3509. Mallet, A. L., E. Zouros, K. E. Gartner-Kepkay, K. R. Freeman, and L. M. Dickie. 1985. Larval viability and heterozygote deficiency in populations of marine bivalves: evidence from pair matings of mussels. *Mar. Biol.* 87: 165-172. (7)
3510. Kepkay, P. E. 1985. Kinetics of microbial manganese oxidation and trace metal binding in sediments: results from an *in situ* dialysis technique. *Limnol. Oceanogr.* 30: 713-726. (7)
3511. Head, E. J. H., L. R. Harris, and C. Abou Debs. 1985. Effect of daylength and food concentration on *in situ* diurnal feeding rhythms in Arctic copepods. *Mar. Ecol. Prog. Ser.* 24: 281-288. (7)
3512. Loder, J. W., and D. G. Wright. 1985. Tidal rectification and frontal circulation on the sides of Georges Bank. *J. Mar. Res.* 43: 581-604. (7)
3513. Hargrave, B. T. 1985. Feeding rates of abyssal scavenging amphipods (*Eurythenes gryllus*) determined *in situ* by time-lapse photography. *Deep-Sea Res.* 32: 443-450. (7)
3514. Higgs, D. A., J. R. Markert, M. D. Plotnikoff, J. R. McBride, and B. S. Dosanjh. 1985. Development of nutritional and environmental strategies for maximizing the growth and survival of juvenile pink salmon (*Oncorhynchus gorbuscha*). *Aquaculture* 47: 113-130. (3)
3515. Gibson, R. J., and T. A. Dickson. 1984. The effects of competition on the growth of juvenile Atlantic salmon. *Natur. can. (Rev. Ecol. Syst.)* 111: 175-191. (9)
3516. O'Connell, M. F., C. W. Andrews, J. P. O'Brien, and E. G. Dawe. 1984. Aspects of the ecology of the fishes of Holyrood Pond: a coastal lake with occasional access to the sea located in St. Mary's Bay, Newfoundland. *Int. Revue ges. Hydrobiol.* 69: 333-360. (9)
3517. Gibson, R. J. F. G. Whoriskey, J.-Y. Charette, and M. Winsor. 1984. The role of lakes in governing the invertebrate community and food of salmonids during the summer in a Québec boreal river. *Natur. can. (Rev. Ecol. Syst.)* 111: 411-427. (9)
3518. Donaldson, E. M., G. A. Hunter, H. M. Dye, and G. van der Kraak. 1985. Induced ovulation in Pacific salmon using LHRH analogs and salmon gonadotropin, p. 375-377. In B. Lofts, and W. N. Holmes (eds.) *Current trends in comparative endocrinology*. Hong Kong University Press, Hong Kong. (3)
3519. Rombough, P. J., and J. O. T. Jensen. 1985. Reduced water uptake and resistance to deformation in acid-exposed eggs of steelhead *Salmo gairdneri*. *Trans. Am. Fish. Soc.* 114: 571-576. (1)
3520. Singh, T. P., and E. M. Donaldson. 1985. Characterization of pituitary GTH subfractions from the Indian major carp, *Catla catla*, (abstract - no page available). In 10th International Symposium on Comparative Endocrinology, 21-26 July, 1985, Copper Mountain, CO, USA. (3)
3521. Van der Kraak, G., and E. M. Donaldson. 1985. Properties of gonadotropin binding sites in ovarian tissue from Pacific salmon, (abstract - no page available). In 10th International Symposium on Comparative Endocrinology, 21-26 July, 1985, Copper Mountain, CO, USA. (3)
3522. Fagerlund, U. H. M., J. R. McBride, H. M. Dye, and J. Bagshaw. 1985. Physiological changes in pink salmon (*Oncorhynchus gorbuscha*) during the spawning migration. 1. Tissue structure and plasma cortisol, p. 66 (abstract). In Fifth Congress of European Ichthyologists, 12-16 August, 1985, Stockholm, Sweden. (3)
3523. Fagerlund, U. H. M., H. M. Dye, J. Sumpter, and E. M. Donaldson. 1985. Physiological changes in pink salmon (*Oncorhynchus gorbuscha*) during the spawning migration. 2. Reproductive parameters, p. 66 (abstract). In Fifth Congress of European Ichthyologists, 12-16 August, 1985, Stockholm, Sweden. (3)
3524. Wildish, D. J. 1985. Geographical distribution of macrofauna on sublittoral sediments of continental shelves: a modified trophic ratio concept, p. 335-345. In P. E. Gibbs (ed.) *Proceedings 19th Marine Biology Symposium*, September 1984, Plymouth, U.K. Cambridge University Press, U.K. (6)
3525. Yaron, Z., A. Bogomolnaya, and E. M. Donaldson. 1985. Stimulation of estradiol secretion by the ovary of

- Sarotherodon aureus* as a bioassay for fish gonadotropin, p. 225-228. In B. Lofts, and W. N. Holmes (eds.) Current trends in comparative endocrinology. Hong Kong University Press, Hong Kong. (3)
3526. Stoecker, D. K., and G. T. Evans. 1985. Effects of protozoan herbivory and carnivory in a microplankton food web. *Mar. Ecol. Prog. Ser.* 25: 159-167. (9)
3527. Yeats, P. A., and J. M. Bewers. 1985. Manganese in the western North Atlantic Ocean. *Mar. Chem.* 17: 255-263. (7)
3528. Ku, L.-F., D. A. Greenberg, C. J. R. Garrett, and F. W. Dobson. 1985. Nodal modulation of the lunar semidiurnal tide in the Bay of Fundy and Gulf of Maine. *Science* 230: 69-71. (7)
3529. Waldichuk, M. 1985. Book review: C. C. Travis, and E. L. Etnier (eds.) Groundwater pollution. Environmental and legal problems. Water, Air, and Soil Pollut. 26: 323-325. (3)
3530. Gibson, R. J. 1985. The rivers in the city of St. John's - a precious heritage. *The Osprey* 16: 54-59. (9)
3531. Oliver, B. G., and A. J. Niimi. 1985. Bioconcentration factors of some halogenated organics for rainbow trout: limitations in their use for prediction of environmental residues. *Environ. Sci. Technol.* 19: 842-849. (11)
3532. France, R. L., and L. Graham. 1985. Increased microsporidian parasitism of the crayfish *Orconectes virilis* in an experimentally acidified lake. *Water, Air, and Soil Pollut.* 26: 129-136. (4)
3533. Muir, D. C. G., D. Lint, and N. P. Grift. 1985. Fate of three phosphate ester flame retardants in small ponds. *Environ. Toxicol. Chem.* 4: 663-675. (4)
3534. Bigg, M. A., and I. Fawcett. 1985. Two biases in diet determination of northern fur seals (*Callorhinus ursinus*), p. 284-291. In J. R. Beddington, R. J. H. Beverton, and D. M. Lavigne (eds.) Marine mammals and fisheries. George Allen & Unwin, London. (1)
3535. Waddy, S. L., and D. E. Aiken. 1984. Seed stock for lobster culture: the role of temperature in synchronizing the molt and reproductive cycle of cultured American lobsters. *J. World Maricul. Soc.* 15: 132-137. (6)
3536. Eagles, M. D., D. E. Aiken, and S. L. Waddy. 1984. Effect of food quality and feeding schedule on survival, growth and development of larval American lobsters fed frozen adult brine shrimp. *J. World Maricul. Soc.* 15: 142-143. (6)
3537. Waldichuk, M. 1985. Book review: H. Edde, Environmental control for pulp and paper mills. Water, Air, and Soil Pollut. 26: 106-107. (3)
3538. Waldichuk, M. 1985. Book review: G. G. Choudhry, Humic substances. Structural, photophysical, photochemical and free radical aspects and interactions with environmental chemicals. Water, Air, and Soil Pollut. 26: 107-109. (3)
3539. Gill, J. A., J. P. Sumpter, E. M. Donaldson, H. M. Dye, L. Souza, T. Berg, J. Wypych, and K. Langley. 1985. Recombinant chicken and bovine growth hormones accelerate growth in aquacultured juvenile Pacific salmon *Oncorhynchus kisutch*. *Bio/Technol.* 3: 643-646. (3)
3540. Ikeda, M. 1985. Internal Kelvin waves generated by quasi-periodic mesoscale motion along the coast. *J. Phys. Oceanogr.* 15: 1205-1211. (7)
3541. Ikeda, M. 1985. A coupled ice-ocean model of a wind-driven coastal flow. *J. Geophys. Res.* 90: 9119-9128. (7)
3542. Ikeda, M. 1985. Wind effects on a front over the continental shelf slope. *J. Geophys. Res.* 90: 9108-9118. (7)
3543. Anderson, L. G., and E. P. Jones. 1985. Measurements of total alkalinity, calcium, and sulfate in natural sea ice. *J. Geophys. Res.* 90: 9194-9198. (7)
3544. Tang, C. L., A. S. Bennett, and D. J. Lawrence. 1985. Thermohaline intrusions in the frontal zones of a warm-core ring observed by batfish. *J. Geophys. Res.* 90: 8928-8942. (7)
3545. Anderson, L. G., A. R. Coote, and E. P. Jones. 1985. Nutrients and alkalinity in the Labrador Sea. *J. Geophys. Res.* 90: 7355-7360. (7)
3546. Dobson, F. 1985. Comment on "Measurement

- of high-frequency waves using a wave follower" by S. Tang and O. H. Shemdin. *J. Geophys. Res.* 90: 9203-9204. (7)
3547. Dobson, F. 1985. Comment on "Measurements of wind velocity and pressure with a wave follower during MARSEN" by S. V. Hsiao and O. H. Shemdin. *J. Geophys. Res.* 90: 9206-9208. (7)
3548. Ruddick, B. R., and A. S. Bennett. 1985. Fine structure and mixing at the edge of a warm core ring. *J. Geophys. Res.* 90: 8943-8951. (7)
3549. Smith, J. C., and T. Platt. 1985. Temperature responses of ribulose biphosphate carboxylase and photosynthetic capacity in arctic and tropical phytoplankton. *Mar. Ecol. Prog. Ser.* 25: 31-37. (7)
3550. Liversidge, J., A. L. S. Munro, H. J. Schlotfeldt, and T. P. T. Evelyn. 1985. Fischpathogene Viren, p. 112-173. In R. J. Roberts (ed.), H.-J. Schlotfeldt (transl. ed.) *Grundlagen der Fischpathologie mit einer Einführung in die Anatomie, Physiologie, Pathophysiologie und Immunologie sowie in den aquatischen Lebensraum der Knochenfische*. Verlag Paul Parey, Berlin (FRG). (1)
3551. Muir, D. C. G., W. K. Marshall, and G. R. B. Webster. 1985. Bioconcentration of PCDDs by fish: effects of molecular structure and water chemistry. *Chemosphere* 14: 829-833. (4)
3552. Levings, C. D., E. P. Anderson, and G. W. O'Connell. 1985. Biological effects of dredged-material disposal in Alberni Inlet, p. 132-155. In B. Ketchum, J. Canuzzo, W. Burt, I. Duedall, P. Park, and D. Kaster (eds.) *Wastes in the ocean, vol. 6. Near-shore waste disposal*. John Wiley & Sons, Inc., New York, NY. (3)
3553. Power, D. J., and I-H. Ni. 1985. Morphometric differences between golden redfish (*Sebastes marinus*) and beaked redfishes (*S. mentella* and *S. fasciatus*). *J. Northw. Atl. Fish. Sci.* 6: 1-7. (9)
3554. Ni, I-H., and W. Templeman. 1985. Reproductive cycles of redfishes (*Sebastes*) in southern Newfoundland waters. *J. Northw. Atl. Fish. Sci.* 6: 57-63. (9)
3555. Dawe, E. G., and P. C. Beck. 1985. Distribution and size of short-finned squid (*Illex illecebrosus*) larvae in the Northwest Atlantic from winter surveys in 1969, 1981 and 1982. *J. Northw. Atl. Fish. Sci.* 6: 43-55. (9)
3556. Bower, S. M. 1985. *Ceratomyxa shasta* (Myxozoa: Myxosporidia) in juvenile chinook salmon (*Oncorhynchus tshawytscha*): experimental transmission and natural infections in the Fraser River, British Columbia. *Can. J. Zool.* 63: 1737-1740. (1)
3557. Bell, G. R., and G. E. Hoskins. 1985. Absence of the lobster pathogen *Aerococcus viridans* in Dungeness crabs (*Cancer magister*) taken from Vancouver harbor, British Columbia. *Aquaculture* 47: 263-265. (1)
3558. Olivier, G., T. P. T. Evelyn, and R. Lallier. 1985. Immunity to *Aeromonas salmonicida* in coho salmon (*Oncorhynchus kisutch*) induced by a modified Freund's complete adjuvant: its non-specific nature and the probable role of macrophages in the phenomenon, p. 419-432. In *Developmental and comparative immunology, vol. 9*. Pergamon Press Ltd., New York, NY. (8)
3559. Olivier, G., T. P. T. Evelyn, and R. Lallier. 1985. Immunogenicity of vaccines from a virulent and an avirulent strain of *Aeromonas salmonicida*. *J. Fish. Dis.* 8: 43-55. (8)
3560. Gibson, R. J. 1985. Potential of city rivers in St. John's. *Spawner* 1985: 37-39. (9)
3561. Beacham, T. D., and R. E. Withler. 1985. Heterozygosity and morphological variability of pink salmon (*Oncorhynchus gorbuscha*) from southern British Columbia and Puget Sound. *Can. J. Genet. Cytol.* 27: 571-579. (1)
3562. Porter, R. 1985. An overview of DFO Research Branch. *Spawner* 1985: 73-77. (9)
3563. Porter, R. 1985. Seal for salmon enhancement. *Spawner* 1985: 82. (9)
3564. Zitko, V., and M. Woodside. 1985. Cationic surfactants in marine fish. *Mar. Pollut. Bull.* 16: 364-365. (6)
3565. Majewski, H. S., and E. Scherer. 1985. Uptake and depuration of two polycyclic aromatic hydrocarbons, fluorene and benzo(a)pyrene, in the mussel *Mytilus edulis* and the diatom *Phaeodactylum tricornutum*. *Water Poll. Res. J. Can.* 20: 29-35. (4)



3566. Bates, S. S. 1985. Sample preconditioning for measurement of fluorescence induction of chlorophyll  $\alpha$  in marine phytoplankton. J. Plankton Res. 7: 703-714. (7)
3567. Lacroix, G. L. 1985. Plasma ionic composition of the Atlantic salmon (*Salmo salar*), white sucker (*Catostomus commersoni*), and alewife (*Alosa pseudoharengus*) in some acidic rivers of Nova Scotia. Can. J. Zool. 63: 2254-2261. (6)
3568. Wildish, D. J., and M. J. Dadswell. 1985. Sublittoral gammaridean amphipods of soft sediments in the Bay of Fundy. Proc. N.S. Inst. Sci. 35: 1-15. (6)
3569. Bratley, J., R. W. Elner, L. S. Uhazy, and A. E. Bagnall. 1985. Metazoan parasites and commensals of five crab (*Brachyura*) species from eastern Canada. Can. J. Zool. 63: 2224-2229. (6)

CANADIAN TRANSLATION OF FISHERIES AND AQUATIC SCIENCES/  
TRADUCTION CANADIENNE DES SCIENCES HALIEUTIQUES ET AQUATIQUES

Abbreviation/Abréviation: TS

(NOTE: The articles in this series have been translated at the request of Department scientists for use in their research work.)

Copies of translations may be obtained from Translation Services, Canada Institute for Scientific and Technical Information, National Research Council of Canada, Ottawa, Ontario, Canada K1A 0S2.)

(REMARQUE: Les scientifiques du Ministère ont demandé de faire traduire les articles de cette série en vue de leurs recherches.)

On peut obtenir des copies d'articles traduits à l'adresse suivant: Traduction, Institut de l'information scientifique et technique, Conseil national de recherches, Ottawa (Ontario), Canada K1A 0S2.)

5112. Delyamure, S. L., V. N. Popov, and A. N. Trashchenkov. 1980. Study of the helminth fauna of the seals of the Baltic Sea and Lake Ladoga. 7 p. (Translated from Russian: Nauchn. Dokl. Vyssh. Shk. Biol. Nauki 7: 43-45.)
5113. Norwegian Canning Industry Laboratory. 1984. Containerization of sprats - trials, 1983 season. 10 p. (Translated from Norwegian: Annual Report 1983, Norwegian Canning Industry Laboratory, Stavanger, Norway: 24-26.)
5114. Melnikova, M. N. 1964. The fecundity of the Atlantic salmon (*Salmo salar* L.) from the Varguza River. 15 p. (Translated from Russian: Vopr. Ikhtiol. 4(32): 469-476.)
5115. Michel, C., J.-P. Gerard, B. Fourbet, R. Collas, and R. Chevalier. 1980. Use of flumequine against furunculosis in salmonids: therapeutic trials and practical perspectives. 10 p. (Translated from French: Bull. fr. piscic. 277: 154-162.)
5116. Chevalier, R., J.-P. Gerard, and C. Michel. 1981. Flumequine distribution and tissue kinetics in rainbow trout (*Salmo gairdneri* Richardson). Detection of residues. 10 p. (Translated from French: Rev. med. vet. 132(12): 831-837.)
5117. Munteanu, E. M., O. Onetiu, and O. Rotaru. 1980. Evaluation of methods for diagnosing *Myxosoma cerebralis* infection of salmonidae. 10 p. (Translated from Roumanian: Rev. Cresterea Anim. 8: 44-48.)
5118. Kummel, G. 1956. The fine structure of the house of appendicularians (*Oikopleura dioica* Fol.) and of the tunic of ascidian larvae (*Botryllus schlosseri* Pall.). 12 p. (Translated from German: Zool. Beitr. 2: 431-439.)
5119. Økland, Ø. 1984. Fish rearing is profitable and risky. 8 p. (Translated from Norwegian: Fisk. Gang 13(28): 359-361.)
5120. Scheuring, L. 1915. Observations on parasitism of pelagic juvenile fish. 14 p. (Translated from German: Biol. Centralbl. Leipzig 35: 181-190.)
5121. Malm, A. W. 1852. Ichthyological remarks.

- 15 p. (Translated from Swedish: Ofvers. K. Vetenskapsakad. Forh. 9(9,10): 224-234.)
5122. Vedernikov, V. I. 1982. The assimilation number and its variations in the cultures and natural populations of marine phytoplankton. 35 p. (Translated from Russian: Tr. Inst. Okeanol. Akad. Nauk SSSR 114: 92-112.)
5123. Svizhenko, V. A. 1983. Analysis of the spectral characteristics of sound signals emitted by pinnipeds. 10 p. (Translated from Russian: Vestn. Zool. 2: 63-67.)
5124. Janicki, K. 1982-1983. The threat to man from contamination of the water environment. 19 p. (Translated from Polish: Folia Med. Cracov. 24(3-4): 193-202.)
5125. Institute of Marine Research. 1983. Program outline for egg and larval investigations and continuation of impact evaluation of damages by potential oil accidents on the most important fish species north of 62°N. 15 p. (Translated from Norwegian: Fiskeridirektoratets Havforskningsinstitutt, Bergen, Norway: 11 p.)
5126. Royal Ministry of Fisheries. 1980. Establishment of regulations for an oil/fish fund in accordance with an attached proposal. 7 p. (Translated from Norwegian: Royal Ministry of Fisheries, Oslo: 6 p.)
5127. Director General of Fisheries. 1982. Notice from the Director General of Fisheries. Change in regulations of February 27, 1981 for an interim damage and compensation program for Norwegian fishermen due to pollution from oil activities. 7 p. (Translated from Norwegian: J 45/82, Bergen, Norway.)
5128. de Buffrenil, V. 1982. Preliminary data on the presence of periosteal growth lines in the mandible of the harbour porpoise, *Phocoena phocoena* (L.) and their use as age indicators. 15 p. (Translated from French: Can. J. Zool. 60: 2557-2567.)
5129. Fyodorov, K. N. 1983. The physical nature and structure of oceanic fronts. 410 p. (Translated from Russian: Gidrometeozdat, Publishers, Leningrad, (U.S.S.R.): 296 p.)
5130. Bertheussen, B. A. 1982. Economic management of fish plants. An investigation on the use and advantage of various management tools. 7 p. (Translated from Norwegian: Fiskeriteknologisk Forskningsinstitutt Rapport, Tromsø, Norway: 52 p. Table of contents, summary and conclusions only.)
5131. Haugslett, A. 1979. The Norwegian fillet industry - thoughts regarding the technology of the future. 142 p. (Translated from Norwegian: Fiskeriteknologisk Forskningsinst. Rapp., Prosjektnummer 663.3-6D, 82 p., 1979. FTFI, Stakkevollv. 23, Postboks 677, 9001 Tromsø, Norway.)
5132. Korner, W. F. 1952. Studies on the formation of the house in appendicularians (*Oikopleura dioica* Fol). 91 p. (Translated from German: Z. Morphol. Oekol. Tiere 41: 1-53.)
5133. Mart'yanova-Glebova, I. P. 1962. The helminth fauna of the far eastern Dolly Varden (*Salvelinus malma*) and Kundzha (*Salvelinus leucomaenis*). 14 p. (Translated from Russian: Tr. Gel'mintol. Lab. 12: 52-58.)
5134. Ivankov, V. N., and N. I. Sergienko. 1984. The internal structure of ovicells in Salmonidae and Coregonidae and the taxonomic status of these groups of fishes. 14 p. (Translated from Russian: Zool. Zh. 63(2): 222-227.)
5135. Butorina, T. E. 1975. The dynamics of the parasitic fauna of different forms of the Arctic char *Salvelinus alpinus* L. in the basin of Lake Azabach'e. (Translated from Russian: Parazitologiya 9(3): 237-246.)
5136. Kobayashi, T. 1968. A note of the seaward migration of pink salmon fry. 14 p. (Translated from Japanese: Sci. Rep. Hokkaido Salmon Hatchery 22: 5 p.)
5137. Ivankov, V. N. 1983. Causes of the variability of the fecundity and age of sexual maturation in monocyctic fish, based on the example of *Oncorhynchus* salmon. 17 p. (Translated from Russian: Vopr. Ikhtiol. 23(5): 805-812.)
5138. Belyayeva, T. V. 1980. Phytoplankton in the vicinity of the "Severnyi polyus-22" drifting station. 13 p. (Translated from Russian: Biologiya Tsentral'nogo Arkticheskogo Basseina, Nauka (Science) Press, Moscow, U.S.S.R., p. 133-142.)

5139. Matsumiya, M., and S. Otake. 1983. Storability of prepared raw surimi. 12 p. (Translated from Japanese: Bull. Coll. Agric. Vet. Med. Nihon Univ. (40): 121-126.)
5140. Yoshida, H. 1979. Research on clarification of Alaska pollack resources in the Bering Sea and waters around the Kamchatka Peninsula. 39 p. (Translated from Japanese: Office of Agriculture, Forestry and Fisheries Research Council, Chapter 3, p. 89-119.)
5141. Nazarenko, Yu. I. 1984. Biology and exploitation of the White Sea harp seal population. 13 p. (Translated from Russian: Morskoe mlekovopitayushchie, p. 109-117, "Nauka" Publishing House, Moscow, U.S.S.R.)
5142. Rusanov, V. P. 1980. Hydrochemical characteristics of the surface water of the Arctic Basin. 26 p. (Translated from Russian: Biologiya tsentral'nogo Arkticheskogo basseina, p. 15-33. "Nauka" Publishing House, Moscow, U.S.S.R.)
5143. Larsson, R. 1983. Identification of Microsporidia (Protozoa, Microspora). 49 p. (Translated from Swedish: Memo. Soc. Fauna Flora Fenn. 59: 33-51.)
5144. Ohshima, T., S. Wada, and C. Koizumi. 1984. Enzymatic hydrolysis of phospholipids in cod flesh during storage in ice. 17 p. (Translated from Japanese: Bull. Jpn. Soc. Sci. Fish. 50(1): 107-114.)
5145. Ohshima, T., and C. Koizumi. 1983. Accumulation of lysophosphatidylcholine and lysophosphatidylethanolamine in muscle of fresh skipjack. 16 p. (Translated from Japanese: Bull. Jpn. Soc. Sci. Fish. 49(8): 1205-1212.)
5146. Ohshima, T., S. Wada, and C. Koizumi. 1983. Deterioration of phospholipids of skipjack muscle during ice storage: mainly concerning to enzymatic hydrolysis of phosphatidylcholine. 13 p. (Translated from Japanese: Bull. Jpn. Soc. Sci. Fish. 49(8): 1213-1219.)
5147. Bias, R. 1981. Cadmium uptake rates in euryhaline amphipods of the Elbe estuary. Experiments with *Corophium volutator* (Pallas) (Amphipoda, Corophiidae). 33 p. (Translated from German: Arch. Hydrobiol. Suppl. 61(1/2): 84-152. Sections 1.3, 2.3, 3.1.1.2, 3.1.3.2-3.1.3.3, and 3.2.3 only translated.)
5148. Paulsen, H., and M. Paal. 1984. Lewis acid catalysed synthesis of di- and tri-saccharide sequences in O- and N-glycoproteins. The use of trimethylsilyltrifluoromethanesulfonate. 23 p. (Translated from German: Carbohydr. Res. 135: 53-69.)
5149. Dahl, J. 1980. Mycoses in fish - a survey of the literature. 15 p. (Translated from German: Berl. Muench. Tieraerztl. Wochenschr. 93: 350-354.)
5150. Kuznetsov, A. P., and A. A. Shileyko. 1984. Gutless protobranchia (Bivalvia). 23 p. (Translated from Russian: Biol. Nauki (Mosc.) 2: 39-49.)
5151. Snimshchikova, L. N. 1984. New species of the genus *Peloscolex* (Oligochaeta, Tubificidae) from northern Lake Baikal and their relationship to the earlier known species *Peloscolex werestschagini*. 20 p. (Translated from Russian: Sistematika i evolyutsiya bespozvonochnykh Baikala, p. 3-15. "Nauka" Publishers, Novosibirsk, U.S.S.R.)
5152. Fedoseev, G. A. 1965. Feeding of the ringed seal (*Pusa hispida* Schr.). 13 p. (Translated from Russian: Izv. TINRO 59: 216-223.)
5153. Levin, A. V., E. V. Levina, and V. S. Levin. 1984. The reaction of asteroids *Asterias amurensis* and *Distolasterias nipon* to homogenates and chemical substances from Far Eastern starfishes. 12 p. (Translated from Russian: Biol. Morya (Vladivost.) 5: 40-45.)
5154. Timm, T. 1983. Distribution routes of some aquatic Oligochaeta. 8 p. (Translated from Russian: A. Kangur (ed.) Biologiya presnovodnykh organizmov Severozapada SSSR. Gidrobiol. Issled. 14: 25-29. Institute of Zoology and Botany, Academy of Sciences of the Estonian SSR, Tallin, U.S.S.R.)
5155. Timm, T. 1983. Oligochaeta of the small lakes of southern Karelia. 14 p. (Translated from Russian: A. Kangur (ed.) Biologiya presnovodnykh organizmov Severozapada SSSR. Gidrobiol. Issled. 14: 30-39. Institute of Zoology and Botany, Academy of Sciences of the Estonian SSR, Tallin, U.S.S.R.)
5156. Grigyalis, A. 1983. Ecology and distribution of oligochaete *Potamothenis hammoniensis* Mich. 8 p. (Translated

- from Russian: A. Kangur (ed.)  
 Biologiya presnovodnykh organizmov Severozapada SSSR. Gidrobiol. Issled. 14: 40-45. Institute of Zoology and Botany, Academy of Sciences of the Estonian SSR, Tallin, U.S.S.R.)
5157. Parele, E. 1983. Oligochaete fauna of small Latvian rivers under conditions of human activity. 7 p. (Translated from Russian: A. Kangur (ed.) Biologiya presnovodnykh organizmov Severozapada SSSR. Gidrobiol. Issled. 14: 46-50. Institute of Zoology and Botany, Academy of Sciences of the Estonian SSR, Tallin, U.S.S.R.)
5158. Slepukhina, T. 1983. Comparison of various methods of assessing water quality by means of oligochaetes. 9 p. (Translated from Russian: A. Kangur (ed.) Biologiya presnovodnykh organizmov Severozapada SSSR. Gidrobiol. Issled. 14: 51-56. Institute of Zoology and Botany, Academy of Sciences of the Estonian SSR, Tallin, U.S.S.R.)
5159. Murakami, Y. 1978. Research concerning sleeping sickness (provisional appellation) in cultured *yamame* and *amago* - I. (Investigation of conditions of occurrence and etiology). 4 p. (Translated from Japanese: Hiroshima-ken Tansuigyo Shidoso Jigyō Jisseki, p. 14.)
5160. Murakami, Y. 1978. Research concerning Myxosporidia parasitic on the nervous tissue of *yamame* and *amago* - I. (Morphology of spores and region parasitized). 3 p. (Translated from Japanese: Hiroshima-ken Tansuigyo Shidoso Jigyō Jisseki, p. 15.)
5161. Murakami, Y. 1978. Research concerning Myxosporidia parasitic on the nervous tissue of *yamame* and *amago* - II. (Distribution and time of appearance of fish parasitized by Sporidia in Hiroshima Prefecture). 4 p. (Translated from Japanese: Hiroshima-ken Tansuigyo Shidoso Jigyō Jisseki, p. 16.)
5162. Reinsch, H.-H., and M. Stein. 1985. Argentinidae: *Argentina silus* - Goldlachs. 3 p. (Translated from German: Bundesforschungsanst. Fisch., Hamb. (35): 34.)
5163. Danish Institute of Fisheries Technology. 1983. Unloading industrial fish: a study concerning unloading methods, equipment and economy. 5 p. (Translated from Danish: Dansk. Fiskeriteknologisk Institut, 170 p. (Table of Contents and Introduction only are translated.))
5164. Rosenthal, H., and G. Krüner. 1984. Combination of biological water treatment and ozonization in a closed sea-water recycling system. 128 p. (Translated from German: Bundesministerium für Forschung und Technologie, Forschungsbericht M 84-006, Meeresforschung. Fachinformationszentrum, Karlsruhe (FRG), 113 p.)
5165. Volkov, Yu.P., A. A. Dadaev, V. S. Levin, and A. M. Murakhveri. 1982. Changes in the distribution of the "Yezo scallop" (*Pecten yessoensis*) and starfishes after mass planting of the scallop on the bottom of Vityaz Bay (Sea of Japan). 13 p. (Translated from Russian: Biol. Morya (Vladivost.) / Mar. Biol. (Vladivost.) (4): 37-43.)
5166. Nazarenko, Yu.I. 1967. Feeding of the ringed seal of the European north of the USSR. 9 p. (Translated from Russian: Tr. Polyarn. Nauchno-issled. Proektn. Inst. Morsk. Rybn. Khoz. Okeanogr. (21): 81-85.)
5167. Iida, H., K. Nakamura, T. Tokunaga, K. Sato, C. Hoshino, S. Terano, and T. Furukawa. 1982. Study on the several chemical tests for estimating the quality of canned product. II. On the canned sardine and masu-salmon. 28 p. (Translated from Japanese: Bull. Tokai Reg. Fish. Res. Lab. (107): 11-23.)
5168. Barsukov, V. V., N. I. Litvinenko, and V. P. Serebryakov. 1984. Manual for the identification of redfish species of the North Atlantic and adjacent areas. 25 p. (Translated from Russian: USSR Ministry of Fisheries, Atlantic Scientific-Research Institute of Fisheries and Oceanography, Kaliningrad, USSR, 28 p.)
5169. Larsen, N. P. J. (Undated). The journey to Twillingate. 35 p. (Translated from German: (Publisher unknown) 41 p. Original Danish translated into German by J. Mez., (no date).)
5179. Matveeva, T. A. 1979. Adaptations to bearing of eggs in some marine bivalves. 8 p. (Translated from Russian: Tr. Zool. Inst. Akad. Nauk SSSR 80: 39-43.)
5171. Alvarez del Villar, J. 1964. Michoacán ichthyology, IV. Contribution to the biology and systematics of the lampreys

- of Jacona, Mich., Mexico. 61 p.  
(Translated from Spanish: An. Esc.  
Nac. Cienc. Biol. (Mex.) 13(1-4):  
106-144.)
5172. Santelices, B. 1982. Biological bases  
for the management of *Lessonia*  
*nigrescens* (Phaeophyta, Laminariales)  
in central Chile. 33 p. (Translated  
from Spanish: Monogr. Biol. (Chile)  
(2): 135-150.)
5173. Chappuis, P. A. 1939. Notes on the  
natural history of *Eudontomyzon*  
*danfordi* Regan. 28 p. (Translated  
from German: Arch. Hydrobiol. 34:  
645-658.)
5174. Shimazaki, K., S. Sasaki, and S. Yamamoto.  
1981. On the selectivity of gillnet  
for pomfret. 18 p. (Translated from  
Japanese: Bull. Fac. Fish. Hokkaido  
Univ. 32(1): 52-60.)
5175. Naser El'-Din, Kh., and G. P. Svyatogor.  
1982. The development of twins from  
overripe roe in the loach. 8 p.  
(Translated from Russian: Biol. Nauki  
(5): 45-48.)
5176. Kupriyanov, V. V. 1983. The  
microvascular network of the caudal  
part of the trunk and of the caudal  
fins of the dolphin. 16 p.  
(Translated from Russian: Arkh. Anat.  
Gistol. Ehmbrjol. 85(12): 42-50.)
5177. Sasaki, S., S. Yamamoto, and K. Shimazaki.  
1981. Ecological studies on the  
pomfret (*Brama japonica* Hilgendorf).  
II. A north-south distribution of the  
pomfret along longitude 175°30'E in  
late July. 18 p. (Translated from  
Japanese: Bull. Fac. Fish. Hokkaido  
Univ. 32(3): 225-233.)
5178. Ueno, K. 1985. Sterility and secondary  
sexual characters of triploid  
*Gnathopogon elongatus caeruleus*.  
12 p. (Translated from Japanese:  
Suisan Ikushu (10): 37-41.)
5179. Dominguez, M., and M. Alcaraz. 1983.  
Planktonic larvae of lamellibranch  
mollusks from the Pontevedra Estuary,  
northwest Spain. 17 p. (Translated  
from Spanish: Invest. Pesq. (Barc.)  
47(2): 345-357.)
5180. Sato, S. Post-1941. Studies on the  
lampreys of Hokkaido. 20 p.  
(Translated from Japanese:  
Suisankagaku Kenkyusho Gyoseki (46):  
54-62.)
5181. Dumond, B. 1985. Biological changes in  
an alpine river, the Durance, below  
the Serre-Poncon Dam. Species  
composition 18 and 25 years after  
filling the reservoir. 33 p.  
(Translated from French: (Publisher  
unknown, no. of pages unavailable).)
5182. Coulombe, F., J.-C. F. Brêthes, R.  
Bouchard, and G. Desrosiers. 1985.  
Edaphic and bathymetric segregation of  
the spider crab, *Chionoecetes opilio*  
O. Fabr.), in the southwestern Gulf of  
St. Lawrence. 28 p. (Translated from  
French: Can. J. Fish. Aquat. Sci. 42:  
169-180.)
5183. Ehrlich, S. 1984. Fishing grounds for a  
possible seep-sea fishery west of the  
British Isles. 13 p. (Translated  
from German: Inf. Fischwirtsch. 31(2):  
83-89.)
5184. Nybo, G. 1985. The profitability study  
into fish farms in 1983. 11 p.  
(Translated from Norwegian: Fisk. Gang  
(15/16): 527-530.)
5185. Auerbach, M. 1912. Studies concerning  
the Myxosporidia of Norwegian marine  
fishes, and their distribution. 65 p.  
(Translated from German: Zool. Jahrb.  
(Syst. Oekol. Geogr. Tiere) 34: 1-50.)
5186. Anonymous. 1985. Technological survey in  
the field of net and rope materials.  
6 p. (Translated from Danish: Dansk  
Fiskeriteknologisk Institut (Denmark):  
5 p.)
5187. Tonogai, Y., and K. Tanaka. 1974. On the  
determination of phosphates in foods.  
14 p. (Translated from Japanese: J.  
Food Hyg. Soc. Jpn. 15(5): 331-336.)
5188. Kadowaki, S., T. Kasedo, T. Nakazono, Y.  
Yamashita, and H. Hirata. 1980. The  
relation between sediment flux and  
fish feeding in coastal culture farms.  
13 p. (Translated from Japanese: Mem.  
Fac. Fish. Kagoshima Univ. 29: 217-224.)
5189. Kadowaki, S., T. Kasedo, and T. Nakazono.  
1978. Continuous records of DO  
contents by cruising in the coastal  
culture farms. I. Relation between DO  
content and fish density in cages.  
11 p. (Translated from Japanese: Mem.  
Fac. Fish. Kagoshima Univ. 27(1):  
273-280.)
5190. Kadowaki, S., T. Kasedo, T. Nakazono, and  
H. Hirata. 1978. Continuous records  
of DO contents by cruising in the  
coastal culture farms. II. Diffusion  
of suspended particles by feeding.  
14 p. (Translated from Japanese: Mem.

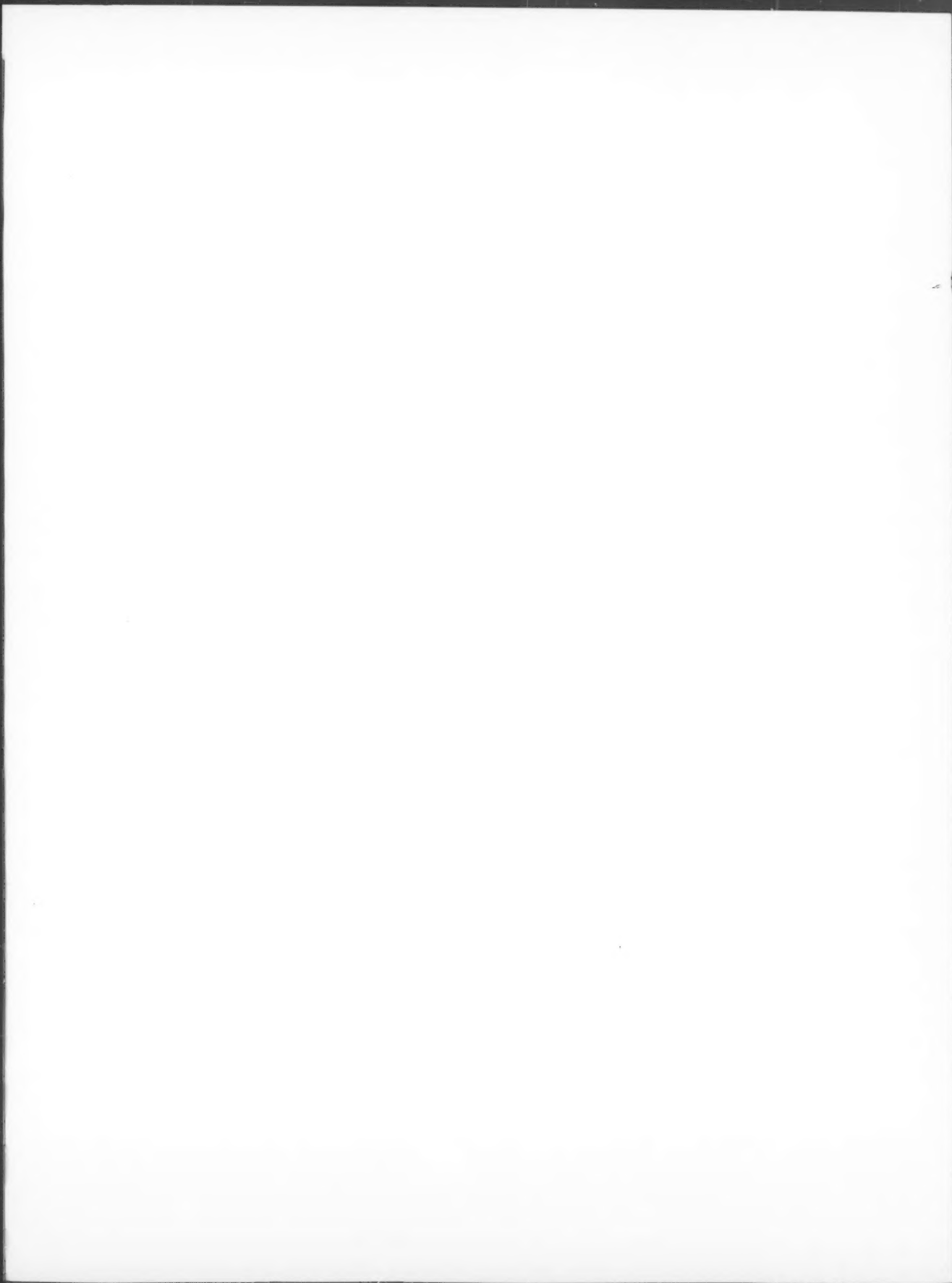


- Fac. Fish. Kagoshima Univ. 27(1):  
281-288.)
5191. Venvik, T., and O. Vahl. 1979.  
Opportunities and limitations for  
harvesting and processing Iceland  
scallops. 76 p. (Translated from  
Norwegian: Series E: Fiskeriteknologi  
nr. 2/79: 52 p. Universitetet i Tromsø,  
Tromsø (Norway).)
5192. Pilleri, G. 1983. In Baffin Land to  
study the narwhal (*Monodon monoceros*).  
140 p. (Translated from German:  
Verlag des Hirnanatomischen Instituts,  
Ostermundigen, Berne (Switzerland):  
102 p.)
5193. Truquet, M., and G. Michel. 1983.  
*Aeromonas salmonicida*: causal agent of  
furunculosis in salmonids.  
Identification and therapeutic  
experimentation *in vitro*. 10 p.  
(Translated from French: Bull. Fr.  
Piscic. 291: 191-196.)
5194. Lesel, R., F. Gavini, M. Lesel, and S.  
Darroze. 1983. Dynamics of rainbow  
trout bacterial flora during *Yersinia*  
*ruckeri* - induced enterosepticemia.  
7 p. (Translated from French: INSERM,  
Colloque international de  
Bacteriologie, 25-27 mai.)
5195. Rindal, O., and K. Julshamn. 1985.  
Selenium - an important nutrient for  
salmonids. 6 p. (Translated from  
Norwegian: Fisk. Gang 9(18): 317-318.)











**Canadian  
Journal of  
Fisheries and  
Aquatic  
Sciences**

**Journal  
canadien des  
sciences  
halieutiques et  
aquatiques**

---

**Volume 42, Index 1985**

---

Index to Publications/Index des publications	2083
Abbreviations used/Abréviations en usage	2084
List of Establishments/Liste d'établissements	2086
List of entry terms used in Subject Index/Liste des termes d'entrée en usage dans l'index des matières	2088
Subject Index/Index par sujet	2089
Author Index/Index par auteur	2137
Journals	2193
Special Publications/Publications spéciales	2205
Bulletins	2206
Technical Reports (Fisheries)/Rapports techniques (Pêches)	2206
Manuscript Reports (Fisheries)/Rapports manuscrits (Pêches)	2211
Data Reports (Fisheries)/Rapports statistiques (Pêches)	2215
Industry Reports (Fisheries)/Rapports à l'industrie (Pêches)	2218
Technical Reports (Hydrography)/Rapports techniques (Hydrographie)	2220
Data Reports (Hydrography)/Rapports statistiques (Hydrographie)	2221
Contractor Reports (Hydrography)/Rapports des entrepreneurs (Hydrographie)	2222
Studies/Études	2223
Translations/Traductions	2236

